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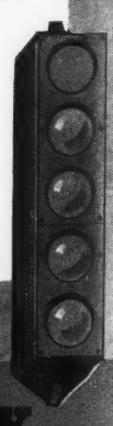

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The Week at a Glance

LUXURY WITH SAFETY: People all around the country are seeing, or looking forward to seeing, the exhibit train built by Pullman-Standard for General Motors to give the public—and the railroads—some appreciation of the ideas the designers and decorators, the makers of fabrics and finishing materials and communication equipment, the engineers who build comfort and convenience and security into passenger cars, have for the "Train of Tomorrow." Our detailed illustrated article describing it (page 73) does not stop with an account of the fittings and furnishings that catch the eye and rest the body—it includes an instructive outline of the structural modifications incorporated in applying the Astra Dome and a report of the severe physical tests which the new cars had to pass to prove their suitability for railroad service.

●

BELOW THE SURFACE: The several levels in each Astra Dome-equipped car of the exhibition train have afforded the designers unusual opportunities to introduce extra luxury features while providing profitable passenger space. Apart from the provisions for comfort obvious to every customer, the individual Diesel-driven power units, the limitations on sidesway imposed by the outside swing hanger suspension designed into the trucks, the Rador temperature-control apparatus, and the elaborate electrical equipment of the dining car are just a few of the unseen elements that add measurably to the overall impression the train creates.

●

TOUGH TERRAIN: Perfectly well instructed in the practical advantages of connecting two points by a 16½-mile straight line, rather than going the 25.8-mile long way formed by two sides of a triangle, Northern Pacific engineers were stymied for many years in realizing on those advantages in the case of a segment of main line in North Dakota, because grading the short route was too difficult a job for the machinery available. The development of modern heavy earthmoving equipment in recent years has provided the means to carry out, efficiently and economically, this undertaking that has been under consideration at intervals since 1892. The magnitude of the project, the operating advantages resulting from its completion, and the equipment employed in its execution—these points are brought out in the illustrated article on page 66.

●

HARBINGER?: Our report of the annual meeting of the railroad and utility commissioners—page 70 in this issue—does not enlarge upon the reception which representatives of some of the southern and western states gave the provocative analysis of the commodity-rate structure presented on that occasion by John L. Nichols of the I.C.C. statistics bureau, but its point was evident enough; namely, that the lack of "uniformity" in the class-rate structure—about which certain spokesmen for those self-styled blighted areas of the nation have been waxing wroth for years, consuming vast amounts of the time and energy of well-paid counsel, of state and national regulatory agencies, of Congress and governors and courts of high and low degree—that this is a mere bagatelle compared to the "discrepancies" in the relatively unpublicized commodity-rate structure which he says the commission's waybill study shows. But it's a fair guess that such a handy stick with which to beat the railroads is not likely to be left lying peacefully in the commission's archives very long.

●

STOPPING STOPPED: A description in this issue of a centralized traffic control installation on a single-track line of the Santa Fe makes it clear what very important reductions in the time required by freight trains to get over the road can be effected with this operating facility, together with properly located sidings of sufficient length to take full advantage of its potentialities—even where automatic block signaling already was in service. Emphasis is put upon the contribution of the long sidings, with No. 20 turnouts at the switches, to the achievement of what many consider the most impressive attribute of a well-planned C.T.C. lay-out; that is, the regularity with which meets can be made without stopping either train.

●

KILLING THE GOOSE: The taxes the railroads have to pay to support what is called "social security" for their employees are four times as much as the comparable taxes paid by the railroads' competitors. The bosses of the railroad unions appear to be reconciled to the results of this disparity—that is, in normal times, fewer railroad jobs, the inevitable consequence of any major competitive disadvantage—though they have not gone out of their way to see that the rank-and-file brothers know about that disadvantage. But even the most uninformed union member can see with his own eyes that he loses when a job is snatched out of his hands because of that tax differential. A case where just that specific situation has come up is the subject of editorial comment in this issue. A railroad with shop capacity to build 2,000 freight cars it needs finds the high payroll tax it has to pay, as compared to independent car manufacturers, a cost factor important enough to determine where the work will be done. If the railroad shop doesn't build those cars railroad employees will lose many thousands of man-hours of work they might have had. Their leaders will need to be masters of casuistry to explain how "benefits" and "security" fare under those circumstances.

●

NOTED IN THE NEWS: Pathe and March of Time have new railroad movies in the theaters. . . . Gross in June was about 13.2 per cent over last year, with a 3½ per cent increase in ton-miles. . . . Kaiser is starting work on a 52-mile private railroad to reach his California iron mines. . . . John E. Tilford becomes executive vice-president of the L. & N.

ASSET VS. LIABILITY: Residents of Akron went down to the depot in greater numbers than usual last week, because the Erie had just completed a new station to accommodate its patrons there. During the accompanying festivities President Woodruff of that road drove home the fact that the railroad has paid for the new station, and will have to pay taxes to the city on it, while the air lines are using facilities for which the taxpayers paid; and those air lines not only are not paying taxes, they are not even carrying all airport operating costs. And at that the air lines are complaining that the airport isn't good enough. As reported in our news columns, Mr. Woodruff added, too, that the air lines can move away any time they want to, because, unlike the railroads, they don't have any of their own money invested there.

●

INVESTING IN SIGNALS: Railroads faced with the necessity of installing additional signaling to comply with the commission's recent order affecting all high-speed routes are in a position where costs have to be weighed against operating economies and service improvements to decide which of several forms of signaling will best meet their specific situations. Our leading editorial outlines the considerations that enter into that choice, pointing out how centralized train control can be justified economically where there is sufficient traffic, how many of the advantages of dispatcher control can be realized without employing power switches and a full array of intermediate signals, and how complete protection of trains can be secured at relatively low cost in territories where the number of trains does not appear to justify the more expensive centralized systems.

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SPEECH ON SAFETY: I. C. C. Commissioner Patterson has been out to San Francisco to tell the firemen's convention what the railroads have done to make trains safer, and what he thinks they ought to do. His remarks are abstracted in a short article herein (page 84). After listing commission activities "to improve safety" he made it clear that the agency is looking forward to the day when it will have the legal power to limit train speeds and to specify just what sort of cars may be included in passenger trains.

●

MOVING THE WHEAT: Some members of Congress appear to be satisfied that it's all their doing, but at any rate the railroads—with the very essential and effective cooperation of the grain trade—have been working wonders this year in moving another phenomenal wheat crop, as Car Service Chairman Kendall reports in his latest review of the transportation situation, summarized in the news pages. During the July 12 week grain loadings were greater than any week since August, 1929, and in those days the railroads had over 300,000 more cars to work with. Mr. Kendall has hopes that this month, for the first time in a long, long while, the number of new cars delivered to the railroads will exceed the number of old cars retired.

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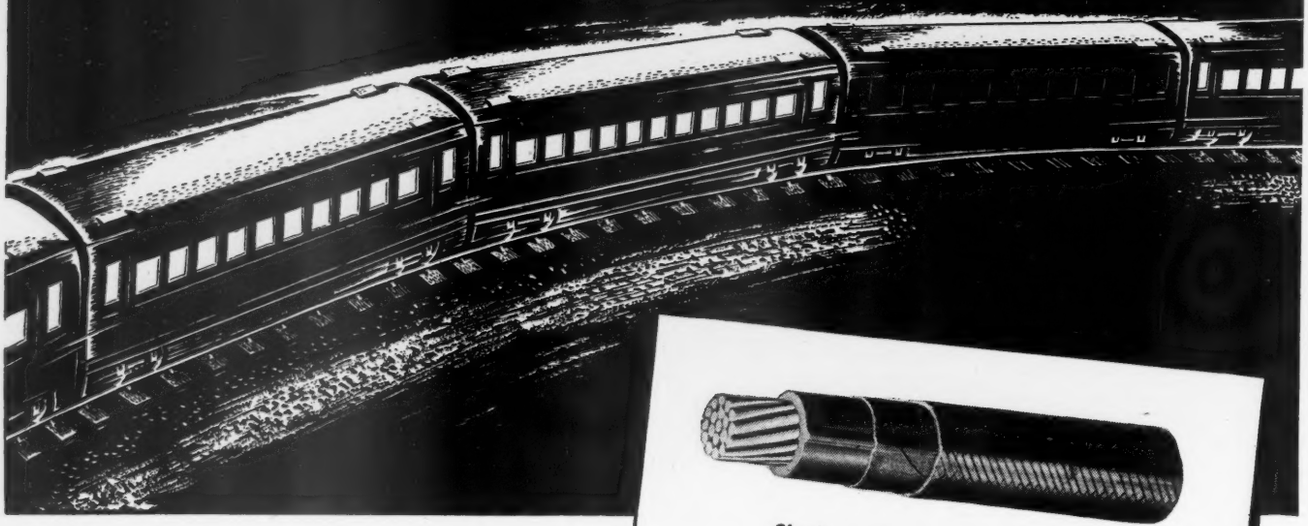

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RAILWAY AGE

The Responsibility of Management in the Choice of New Signaling Systems

The June 17 order of the Interstate Commerce Commission requiring the widespread installation of block signals and other safety devices presents issues of major importance to top railway management. This order, in our opinion, as was pointed out in the June 28 issue, is unwarranted in its scope, but if it must be complied with, the question must be answered as to what type of signaling should be installed, not only to accomplish the purpose of the order—increased safety of operation—but at the same time to promote improved service and maximum operating economy. The authority and responsibility of the commission in regard to signaling has to do solely with the safety of train operation. On the other hand, railroad managements are responsible not only for safety, but also for the investment of the total funds they have available in improvements that will pay their way.

The Nature of the Problem

One important section of the commission's order requires the railroads to install a block signal system on lines not now so equipped where freight trains are operated at 50 m. p. h. or more, or passenger trains at 60 m. p. h. or more. About 18,586 mi. of track in the United States are affected by this portion of the order. Nearly all of this is single track, and on most of it the volume of traffic is not heavy because, for the most part, the single-track lines which handle heavy traffic have been equipped with signaling for many years. If any single-track lines now handling heavy traffic of 20 or more trains daily are not now equipped with signaling, a logical decision, when complying with the I. C. C. order, would be to install complete centralized traffic control with power switch machines, as has been advocated in numerous instances in these columns. The important problem, therefore, as regards the other and major portion of this 18,586 mi. is to choose a signaling system to be adopted for single-track through routes where traffic is lighter, as for example 8 or 12 or even 15 trains daily. Let us examine how the problem regarding these lines might be dealt with.

Consider Protection First

Confining consideration for the moment to *protection* of train movements on single-track lines, this objective is accomplished by automatic block signaling, including track circuits throughout, which affords protection against collisions, and will detect broken rails and cars on sidings that are not clear of the main track, besides checking the position of switches. The conventional absolute permissive automatic block system permits trains of the same direction to follow in a station-to-station block at intervals depending on the spacings between the intermediate signals. By relinquishing this advantage of allowing trains to follow in a station-to-station block, the intermediate signals can be eliminated. This form of signaling can be used where protection is the principal objective and where the number of trains is comparatively small, although these trains may be on fast through schedules. This solution was successfully adopted on the Rock Island between Omaha, Neb., and Limon, Colo., as set forth in an article in the June 28, 1947, issue of the *Railway Age*.

A fact that should be emphasized, however, is that any automatic block system is merely a means of protection. It does not replace the cumbersome method of authorizing train movements by timetable and train orders. When first-class trains are running late, or when extra trains are operated, other trains lose time needlessly when waiting on sidings, simply because the dispatcher has no means for altering orders quickly to take advantage of changing circumstances. Keeping operators on duty in open offices to handle train orders is an expensive element of operating costs.

Add Dispatcher Control

Such being the case, it becomes highly desirable to include with automatic signaling the improvements which will enable the dispatcher to control signals at

sidings to authorize train movements. These signals minimize the train time lost when making meets, while at the same time they reduce operating expenses by eliminating train-order offices. The Milwaukee accomplished this result on 99 mi. between Aberdeen, S. D., and Mobridge by installing a C. T. C. system, controlled by the dispatcher, which includes signals at the sidings for authorizing trains to: (1) proceed to the next siding; (2) stop, throw the switch and enter the siding; or (3) if on the siding, throw the switch, enter the main track and go to the next siding. The passing track switches are operated by hand-throw stands, the same as previously. No intermediate signals, other than distant signals, in approach to station-entering signals, were used. In addition to the materials required for the Rock Island's Omaha-Limon automatic signaling, the Milwaukee C. T. C. required take-siding and leave-siding signals and the dispatcher's control machine with line code equipment, as was explained in an article in the *Railway Age* of May 10, 1947.

Going a step further, the question may well be raised whether certain changes can be made, as applying to a medium-traffic line, to justify the inclusion of power switch machines in a dispatcher-controlled C. T. C. system such as that on the Milwaukee's Aberdeen-Mobridge line. This practice of including power switch machines was followed on a 107-mi. territory on the Louisville & Nashville by equipping only 11 of the 24 previous sidings, as was described in an article in the *Railway Age* of December 7, 1946.

Depends on Number of Sidings

The crux of the matter is that, in an automatic block signal system to a certain extent—and in a dispatcher-controlled C. T. C. system to a very large extent—the overall installation costs are governed not so much by mileage as by the number of sidings. Many single-track lines were built with sidings approximately five miles apart. Now, with fewer trains, operated at higher speeds, about half the sidings can be eliminated in territory where train movements are authorized by dispatcher-controlled C. T. C. signals. This is no guess work—the results can be forecast accurately by preparing time-distance charts of train movements.

In view of the foregoing considerations, the conclusion is that, for a medium-traffic single-track line, the first thing to determine is the number of sidings which can be eliminated if complete C. T. C., with dispatcher-controlled power switches and signals, is installed. If sufficient savings in sidings can be effected, the adoption of complete C. T. C., similar to that on the L. & N. as mentioned above, should be the best policy from the standpoint of service and return on the investment. If the operating officers will not agree to relinquish any sidings, or if the terrain is such that the cost of changing sidings would be too much, perhaps C. T. C. with hand-throw switches applied to existing sidings, as installed on the Milwaukee, would be advisable. In such a system, power switches could be applied later, where needed because of adverse grades. If funds are not available to make changes in sidings, and only the absolute minimum expenditure can be made for signaling—merely to afford protection—the logical policy may be to install automatic block only.

As applying to any project, having provided for safety of operation, it is management's task to determine what more is needed to the extent that the installation will pay its way. Anything less than what is needed in this regard will cause losses in train time that will, indirectly, cost more than the additional signaling. In this connection it is well to observe that the bulk of the savings accomplished by a C. T. C. dispatcher-control system should be credited—not to the proposed expenditure as a whole, but rather to that portion which represents the added cost of the C. T. C., over and above the cost of automatic block only. If this thesis is understood and accepted, it will be seen that, as a general rule, if a single-track line is handling enough traffic to justify track circuit-controlled automatic signaling, the addition of centralized traffic control to eliminate train orders and sidings can be justified economically, and also will aid in rendering better service to the public.

High Payroll Taxes Curtail Employment

By their insistence upon much more generous "social security" payments than manufacturing industry has to pay, railroad employees are threatening to "price themselves out of the market" so far as the construction of railroad equipment is concerned. This paper recently made inquiry from the president of a leading railroad as to disposition of an order for 2,000 hopper cars which his company was considering purchasing. He replied:

> Ordinarily, we would build these cars in our own shops, but, because of the difference in the tax situation, that is still under consideration. Under present laws, railroads pay over four times as high a rate in payroll taxes, commonly known as "social security," as is paid by the manufacturing industry. Railroads currently pay such taxes totaling 8¾ per cent on their payrolls, while similar taxes on manufacturing industry total generally less than 2 per cent. The difference in payroll tax is an important factor in determining the economy of building equipment in railroad shops as compared with manufacturing industry shops.

The injury to railroad employment in "social security" payments and taxes at a rate so much higher than in other industry is quite obvious in such an instance as this, where there is direct competition between railroad shops and the manufacturing industry. The same competitive danger exists, although less obviously, not just with jobs in the shops, but with employment throughout the railroad industry.

Truck operators and barge lines and other agencies of transportation competitive with the railroads are, for example, paying only the approximately 2 per cent payroll tax mentioned above, as against the 8¾ per cent levied against the railroads. This labor cost disadvantage is sufficient to necessitate railroad rates in competition with rival transport agencies at a level about 3 per cent higher than they would otherwise need to be—a difference sufficient to divert a lot of traffic from the railroads, and thus quite appreciably to depress railroad employment. Such considerations may not seem

highly important now, when traffic is plentiful and general employment is at a record level. They will be better understood when jobs become more difficult to find.

As Professor Sydney Miller wrote, prophetically, in his "Inland Transportation" some fifteen years ago:

> Railway workers must choose between a small volume of employment at high wage rates and a greater volume at lesser rates. . . . But there is little to indicate that railway labor has made an economic analysis of the problem with which it is faced. . . .

Keeping Secret What Should Be Known

In these days of rapid progress in maintenance of way and structures there is constant change on most railroads in standards of design and the methods and equipment used by the maintenance forces. Today a new rail section is adopted, involving important changes as compared with the section it replaces: tomorrow a radical change may be made in some aspect of the maintenance organization; the next day a new and entirely different piece of work equipment may be introduced to replace a machine that has been in use for many years.

Such changes are, of course, adopted by higher engineering officers for definite reasons. Yet, how frequently are the men in the field—the supervisors and their assistants, and even some higher officers—left entirely or partly in the dark regarding the reasons for the changes? Department heads have the prerogative of making changes in standards without explaining them to their subordinates, but if it can be shown that a policy of silence in this respect can be disadvantageous to the railroad—or, conversely, that the practice of acquainting key men in the field with the reasons for changes would prove beneficial to the company—then ordinary prudence would dictate a policy of more liberality in explaining changes.

Men of lower supervisory rank usually like to look upon themselves as a part of management and it is a good thing for the railroad when they take this view. When they are instructed to put a new standard into effect, without, at the same time, being told the reasons for the new practice, it is only human for them to feel they are being left out. This is likely to engender resentment which could easily have an adverse effect on morale and efficiency. Furthermore, since the man in the field is the one to whom the performance of the new device or practice is entrusted, a logical assumption is that the maximum potentialities of the new standard can be realized only if he is fully advised of the reasons for it and the advantages to be expected.

There is still another aspect of the matter, which can be epitomized by considering a hypothetical case in which a track supervisor is asked by one of his foremen to explain the advantages of a new type of track fastening. If the supervisor himself has not been apprised of these advantages by his superiors, a natural course for him, when queried by a foreman, is to draw conclusions based upon his own observations and reasoning, and to answer the foreman accordingly. The danger—and this has happened to competent supervisors—is that his deductions may be at leastly partly wrong, and if this proves to be the case the foreman is certain to learn of the mistake eventually, causing him to lose confidence in his supervisor and resulting in a situation that is certain to have unfavorable implications for the supervisor, the foreman and the railroad.

It is not necessary to explain fully every minor change in standards. Sometimes there may even be compelling considerations of policy for keeping silent as to the reasons for such changes, at least for a time. But such cases are the exceptions. As a general practice, there is certainly nothing to lose, and much to gain, by seeing that all key men in the maintenance department are kept advised of the reasons for important changes in standards.

The Latest Rival

It is interesting to watch the development of the latest application of a steam turbine to railroad motive power in the case of the three locomotives being built for the Chesapeake & Ohio by the Baldwin Locomotive Works. While this project does not represent the first application of the steam turbine to a locomotive, it does represent what appears to be a practical idea—a new combination of proved essential parts to form a different type of motive power. From an engineering standpoint, at least, there should be no great difficulty in obtaining successful and reliable performance from a locomotive, the newness of which results from combining reliable time-tested equipments into the finished motive-power unit.

The idea of not trying to solve a myriad of problems all at once in a single installation is a sound one. Common sense was shown first of all in the use of a conventional fire-tube boiler, the maintenance of which should present no serious unsolved problems. It is true that the overall locomotive efficiency will be less than if a higher-pressure, higher-temperature water-tube boiler were used, but at the same time unnecessary new difficulties, such as mounting to withstand shock and vibration and a higher standard of water treatment, are avoided. The standard d.c. electric drive has been service tested and proved in millions of miles of Diesel-electric operation. At the same time the design of the locomotive places a large proportion of the total weight on the driving wheels, which, in conjunction with the electrical transmission, permits a high tractive force and rapid acceleration. As for the steam turbine, it is a prime mover second to none in reliability and maintenance requirements. The steam turbine has an excellent record in marine and power-plant installations, and one is now in service on the Pennsylvania.

The ultimate value of the steam-turbine-electric locomotive to the railroads, and the extent of its application, will, of course, depend ultimately on the comparison of its overall operating economies, including first cost, with those of competing forms of motive power. Its "leveling-off" point with regard to the number of units that can be used profitably is impossible to predict. The three C. & O. locomotives may form a basis for making such a prediction. They may also form the basis for future developments that may be undertaken in due quantity and in due time for this type of motive power.

High-speed, large-capacity grading equipment carving the new roadway out of the hills

New 16.5-mi. cutoff on Northern Pacific eliminates both ruling grade and sharp curves; shortens line 9.3 mi.

Modern Earthmoving Equipment Makes the Dirt Fly in North Dakota

THE Northern Pacific is now engaged in laying track on the recently completed subgrade of its single-track, New Salem-Kurtz cutoff in North Dakota, one of the largest projects of its kind completed in recent years, which involved the extensive use of heavy, modern grading equipment in handling approximately 3¾ million yards of earthwork. In addition to the heavy grading, 3,755 linear feet of culvert pipe was installed and five bridges were erected.

Rough Country

In heavy freight territory, known as the first subdivision of the Yellowstone division, located on the main line between Mandan, N. D., and Dickinson, the cutoff, 16.5 mi. long, will produce large savings in operating expenses by the elimination of the ruling grade and restricting curves in this territory at the same time that it effects a major reduction in length of line.

The terrain in this section of North Dakota is of a rugged nature due to the effects of having underlain the Wisconsin ice sheet at one time. As the ice receded, the runoff water cut the entire area into numerous ravines, running in a generally north and south direction, with variations in elevation between the high and low points reaching a maximum of 200 ft., and dividing that portion between New Salem on the east and Kurtz on the west into four major divides. In the principal ravines separating the four divides are five creeks, known as the Muskrat, Hailstone, East Wilson, West Wilson and Big Muddy, in the order named, from east to west, all of which were crossed by the new alinement.

There are four major classifications of material throughout the area, known as Fort Union shale, scoria, lignite and rock. Fort Union shale is a hard blue clay of sedimentary nature, which, when vitrified by the burning of the underlying coal beds, becomes a hard, brittle, brick-like material termed scoria. The lignite in this area lies in seams varying from 1 in. to 8 ft. in thickness, with a quality ranging from dust to high grade lignite coal. Interspersed in the area are numerous pockets of silt, which retain the ground water to an extent that their removal by scrapers is prohibitive, and the use of the material for fill purposes highly unsatisfactory. All such silt was wasted and not used in the fills.

In the past, many attempts were made to find a new route through this country which would provide the desired shorter line with unrestricting grades and curves. These surveys were started as far back as 1892 and rerun at different locations over the years, each time with the ultimate result of abandoning the project because of lack of adequate equipment to cope economically with the heavy grading required. In all, 13 separate surveys were run, including one in 1943 from which the final line was constructed. However, with the latest survey, modern earthmoving equipment was at hand, which could literally reduce "mountains to molehills" with economy and dispatch.

Multiple Benefits

Physically, the new 16.5-mi. cutoff runs in an almost direct east to west line, from New Salem to Kurtz, and forms the base of an inverted triangle, with the original line, single track

throughout, forming the east and west legs. The east leg, extending 11 mi. in a southerly direction from New Salem to Almont at the apex, and the west leg, in a northwesterly direction, 14.8 mi. from Almont to Kurtz, have a combined length of 25.8 mi., which is replete with curves and grades. Thus, while a reduction of 9.3 mi. in length of line is the first result of the construction, the major saving realized by the cutoff lies in the reduction of eastbound grades in this heavy freight territory, in which 60 per cent of the tonnage is eastbound.

Following the path of least resistance along the generally north and south lines of the ravines, the old line incorporated an ascending grade of 1 per cent eastward for a distance of 2½ mi., which imposed heavy restrictions on the tonnage limit of eastward traffic. These restrictions will be lifted by the 0.45 per cent maximum eastward grade of the new line, permitting the addition of 400 tons to each eastward train. Full effect of the reduction of grade cannot be realized, however, due to the presence of heavier grades at other points on the subdivision. Westward traffic had but a 0.5 per cent grade to overcome on the original line, which was increased to 0.6 per cent in the new construction, but this will place no restrictions on westward movements, due to the presence of grades steeper than 0.6 per cent at other points on the subdivision. At the same time, curve reduction in the new line is of no mean importance, 20 curves on the old line, varying from 1 to 5 deg., with a total central angle of 607 deg., having given way to 7 curves on the new line, none over 1 deg., with a total central angle of only 110 deg.—thus removing all speed restrictions heretofore imposed on operations in both directions.

Design Details

In addition to the improved physical characteristics afforded in the new line, several special features were incorporated in the work to reduce the cost of construction and to provide for lower maintenance costs in the future. Two of the most important of these were (1) a channel change, which diverted East Wilson creek into West Wilson creek, north of the new line, and (2) the flattening of many cut slopes.

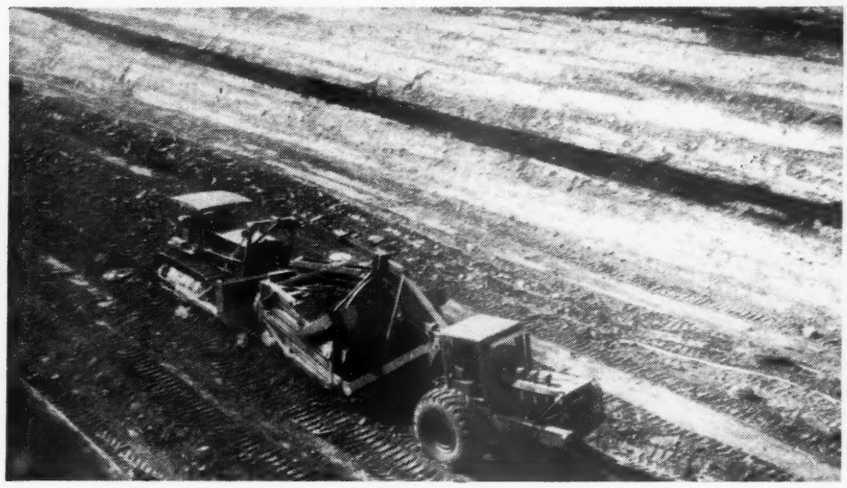
From an engineering standpoint, these features offered several advantages. The channel excavation not only avoided the cost of building one bridge, but also provided fill material for the adjacent embankments. Flattening the cut slopes, in the first instance, produced broad snow cuts and eliminated the necessity for snow fences. It also reduced the possibility of slides in the new work, and, at the same time, provided essential filling material as readily convenient as any available in suitable borrow pits. Thirty thousand cubic yards of lignite was rejected as filling material because of the possibility of spontaneous combustion in the fills. Other excavation was wasted when the cost of hauling equaled the cost of borrowing.

All fills have a top width of 23 ft., with 1¾ to 1 side slopes. The standard for cuts is 40 ft. wide at subgrade, with 1 to 1 side slopes, except where snow cuts were made, and where cuts were widened to produce borrow. In cuts not over 8 ft. in depth, side slopes of 5 to 1 were employed. Where the snow cuts are more than 8 ft. deep, 3 to 1 slopes were used on the north side and 2 to 1 slopes on the south side.

The work as a whole involved cuts having a maximum depth of 58 ft. and fills reaching a maximum height of 68 ft. This normal grading, together with the channel excavation of approximately 300,000 cu. yd., brought the total yardage on the job to approximately 3¾ million cubic yards, and called for a total overhaul of some 22½ million station yards.

Construction

Due to the magnitude of work, the grading was divided into two separate contracts, with a third contract for the construction of the bridge substructures. The major portion of the earthwork was handled by means of modern scrapers, of both the tractor-hauled type and the self-powered type, all working on two 10-hr. shifts per day. Because



A 14-yd. Tournapull working in a cut. Note coal seams in the side slope

A Terra-Cobra wheeled scraper being loaded with the aid of a pusher. Behind these units are push and pull tractors operating a rooter.

Making a cut with the Adams elevating grader

of the nature of the soil and the predominance of shale, practically all excavation required the use of rooters, assisted by pusher tractors, for breaking up the material prior to loading. Pusher tractors were also used in loading the scraper units, both to speed up the work and to obtain a full load.

All material was placed on the fills in 10-in. layers and, by devious routing of the equipment, was compacted to a thickness of 6 in. before any additional lifts were made. In all cases the final 30 in. on each fill was compacted by the use of sheepsfoot rollers, using water as required. That thorough consolidation of the material was secured is seen in the fact that better compaction was obtained in the new fills than that which existed in the original ground, each 100 cu. yd. of fill requiring 107 cu. yd. of excavation.

As previously mentioned, the grading was done under two separate contracts, with that portion from New Salem to a point 9½ mi. west thereof designated as Part I, and the remaining 7 mi., west to Kurtz, as Part II. Foley Brothers, Inc., St. Paul, Minn., and Marsch-Peterson Company, Omaha, Neb., and Chicago, were the general contractors on Part I, which required the moving of 1,510,200 cu. yd. of material, including approximately 25,000 cu. yd. of rock, and involved a total of 13,563,200 station yards of overhaul. This work was performed with the following grading equipment:

- 9 14-yd. Woolridge Terra Cobras
- 5 12-yd. Euclid end-dump trucks
- 4 13-yd. Euclid bottom-dump trucks
- 2 D8 Caterpillar tractor dozers
- 1 D8 Caterpillar tractor pusher
- 3 TD 18 International dozers
- 2 HD14C Allis-Chalmers tractor pushers
- 1 2½-yd. Northwest dragline and shovel
- 1 1¾-yd. Lima dragline and shovel
- 1 Model-11 Adams elevating grader — 48-in. belt
- 1 Model-12 Caterpillar motor patrol
- 1 Model-11 Caterpillar motor patrol
- 1 Model-101 Galion motor patrol
- 1 K30 LeTourneau rooter
- 5 1,500-watt Kohler lighting plants
- 1 Graco greasing unit
- 1 315 LeRoi air compressor
- 3 Gardner-Denver jackhammers
- 1 Wagon drill
- 1 Sheepsfoot roller
- 1 PH 300-amp. arc-welder
- 1 1,000-gal. water tank mounted on an International truck

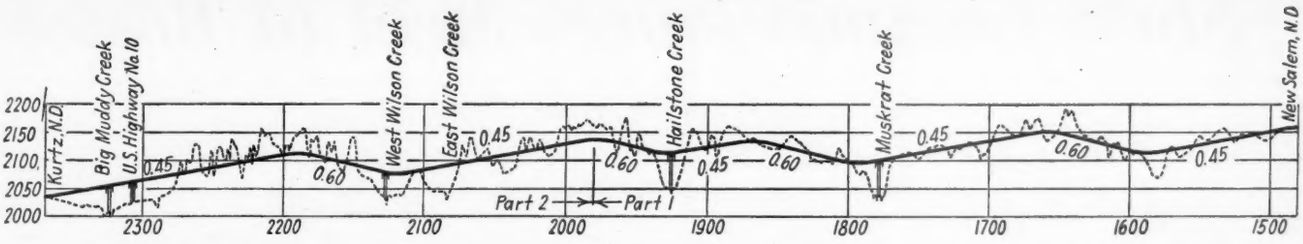
The west portion of the work, Part II, requiring the handling of 2,195,500 cu. yd. of material, including 32,400 cu. yd. of rock, and involving 9,087,200 station yards of overhaul, was performed by A. Guthrie & Co., St. Paul, with the following grading equipment:

- 16 D8 Caterpillar tractors
- 6 14-yd. Tournapulls
- 3 8-yd. Tournapulls
- 5 25-yd. Gar Wood scrapers
- 1 25-yd. LeTourneau scraper
- 1 1½-yd. Bucyrus dragline
- 4 S55 Gardner-Denver rock drills
- 1 500-c.f.m. Gardner-Denver compressor
- 2 K30 LeTourneau Rooters
- 2 Bros Brothers sheepsfoot rollers
- 2 300-amp. Lincoln arc-welders
- 5 50-k.w. Palmer-International lighting plants
- 2 Model-12 Caterpillar motor patrols
- 1 Adams pull blade
- 4 LeTourneau dozers
- 1 4-in. Hercules pump
- 10 1½-2T. Ford and Chevrolet trucks
- 1 Portable machine shop equipped with lathe, drill press, and other shop machinery, mounted on a pneumatic-tired trailer
- 1 Truck-mounted lubrication unit
- 1 Truck-mounted supply warehouse

Borrow of material from the cut slopes involved many long hauls during the progress of the work, reaching a maximum of 8,400 ft. on Part I and 5,800 ft. on Part II. However, these runs were made at high speed, as is evidenced by the fact that, at one location on Part II, nine Tournapulls, working on a 12,800-ft. cycle, consistently produced 3½ loads per hour per unit.

Silt pockets encountered in the work, as well as the lignite seams, were removed by means of draglines and shovels, loading into trucks and Euclids for haul to disposal sites. That this

Excavating lignite with a 2½-yd. Northwest shovel and 11-yd. Euclids



Profile of the new cutoff, showing the character of the terrain and the location of heavy cuts and fills

method was efficient is seen in a time check where seven Euclids, being loaded by one Northwest 2½-yd. shovel, and working on a one-mile haul, had an output of 55 11-yd. loads in each 10-hr. shift. The Adams elevating grader, which could make cuts up to 24 in. in depth, was also used in this work, and was capable of loading 15 cu. yd. in 90 sec. On Part I, the rock encountered on the job was blasted and loaded into trucks by means of shovels for haul to the desired locations on the fill. On Part II, 25-cu. yd. scrapers were used for loading and hauling rock after it had been broken up by shooting, or by rooting in some instances.

Adding greatly to the speed with which the work was accomplished was the fact that U. S. Highway 10 closely parallels the line on the north, making the movement of equipment between the various locations possible with only short construction roads, if any. In addition, the use of motor graders to keep the construction and haul roads in good condition added materially to the production hours of the equipment.

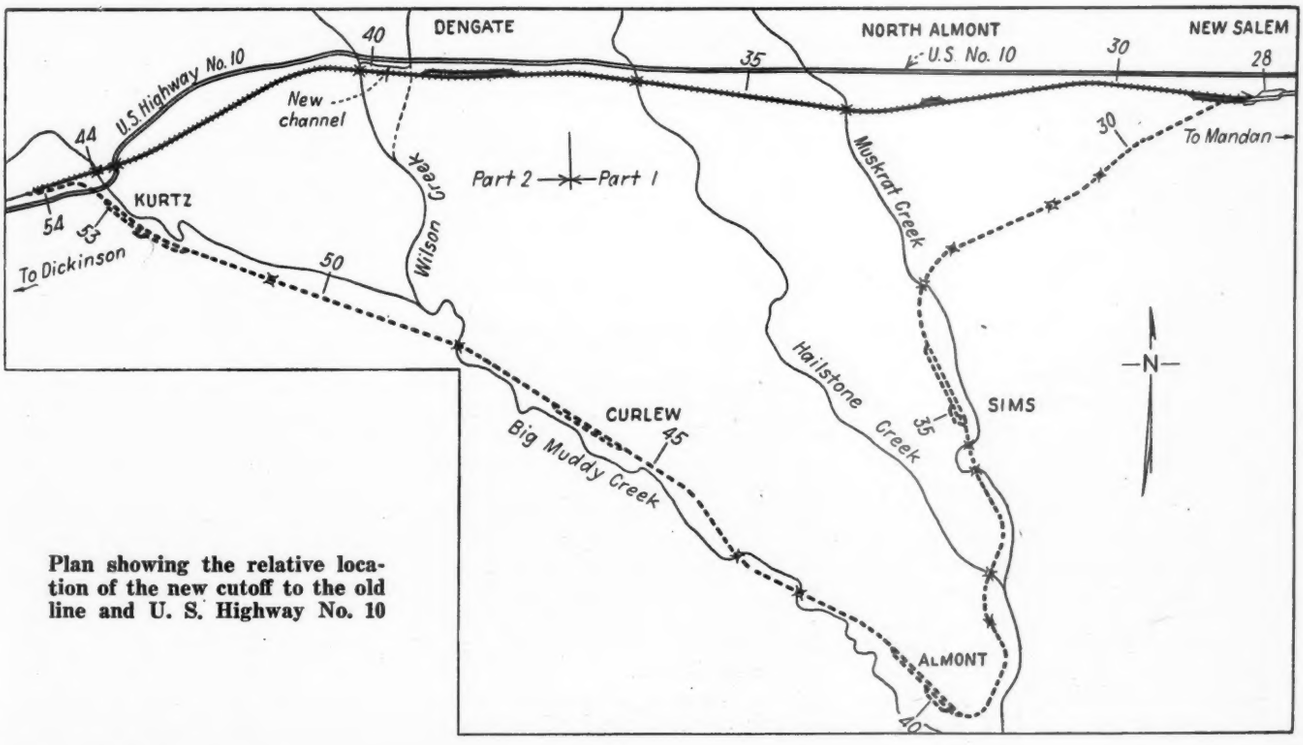
Included in the new line work, as mentioned previously, was the construction of five steel-and-concrete bridges. Three of these bridges were three-span, deck-plate girder structures supported on concrete abutments and low piers with steel towers. The fourth differs from these in that the center concrete piers are carried ot full height. The fifth bridge is a five-span deck-plate girder structure with a concrete ballasted deck, which carries the line over U. S. Highway 10. The center piers were constructed in the creek beds by means of cofferdams, unwatered by a Jaeger 4-in. pump. All of the abutments are landed upon the embankments, and are supported on creosoted piles, 30 to 60 ft. long, having an average bearing of 50 tons per pile.

The abutment piles were all placed after the completion of the embankments, and were started in holes drilled to depths varying from 15 to 24 ft. by a Buda power auger. Driving into natural ground was by means of a McKiernan-Terry steam hammer and a 4,200-lb. drop hammer, supported by a ¾-yd. Osgood crane equipped with a 55-ft. boom and swinging leads. The center piers are supported on untreated cedar piles, which was permissible because of the constantly wet ground conditions at these locations.

Track on the new line is being laid with 115-lb. rail, with 23 treated ties and 28 rail anchors to the panel, on 8 in. of crushed, partially screened pit-run gravel as a sub-ballast. It is planned to give the track an additional 8-in. raise on crushed stone within the next two years.

In addition to the main track, one siding at New Salem is being extended to accommodate 125 cars and a new siding is being constructed at Dengate, about midway along the cutoff, with a capacity of 125 cars. Spring switches are being installed in the new siding and the west switch at New Salem.

The plans and specifications for the work described, which, when completed, will have cost approximately $2,750,000, were prepared by the engineering department of the Northern Pacific under the direction of Bernard Blum, chief engineer, with D. H. Shoemaker, now office engineer, in direct charge of the work in the field as assistant engineer.



Plan showing the relative location of the new cutoff to the old line and U. S. Highway No. 10

State Commissioners Meet at Boston

Hear that railroad commodity-rate scales contain more "discrepancies" than class-rate structure which gets all the publicity; committee reports cover variety of subjects

CARLOAD traffic studies being made at the Interstate Commerce Commission reveal that "variations and differences in class-rate scales which have been so vigorously argued before the courts and the commissions, and so widely discussed in the public press, are in fact of rather minor importance when compared with the variations and differences in the commodity-rate scales," according to a presentation made last week at the fifty-ninth annual convention of the National Association of Railroad and Utilities Commissioners. The meeting of the state regulatory officials was held July 14-17 at the Hotel Statler, Boston, Mass.

The presentation on the carload traffic studies was made by John L. Nichols, railway traffic specialist of the I. C. C.'s Bureau of Transport Economics and Statistics and former member of the staff of the defunct Board of Investigation and Research, from which the commission inherited the waybill data being analyzed in the studies. Other addresses included that delivered at the annual banquet by United States Senator Leverett Saltonstall, Republican of Massachusetts, and the "centennial appraisal" of Thomas A. Edison and Alexander Graham Bell, delivered by Wade O. Martin, member of the Louisiana Public Utilities Commission.

Also, there were two papers dealing with the general subject of "Motor Carrier Regulatory Problems"—one on "Regulated Monopoly vs. Regulated Competition," by Lynn H. Ashley, chairman of the Wisconsin Public Service Commission, and the other on "Motor Carrier Revenue and Rates," by Robert A. Nixon, chief, Motor Carrier Rates and Litigation Section, Transportation Rates Division, U. S. Department of Agriculture. Other proceedings were the presentations of reports from various committees of the association, including those on regulation, rates, services and facilities, and safety of operation of transportation agencies. More than 400 delegates and guests were in attendance, the I. C. C. being represented by Commissioner William E. Lee. Presiding was the association's president, Duane T. Swanson, member of the Nebraska State Railway Commission.

At the election session, Walter R. McDonald, who had been first vice-president and chairman of the executive committee, was elected president to succeed Mr. Swanson. Justus F. Craemer, a member of the Public Utilities Commission of California, was likewise moved up, from the second to the first vice-presidency; and Carroll L. Meins was elected second vice-president. A former member of the Massachusetts Department of Public Utilities, Mr. Meins recently became chairman of the Metropolitan Transit Authority which operates Boston's local transit services. Earlier in the meeting the delegates had voted to make that authority eligible for membership in the association.

Members of the association's staff were reelected as follows: Frederick G. Hamley, general solicitor; Ben Smart, secretary-treasurer; and Stanley Allyson, assistant secretary. John E. Benton, former general solicitor, continues as advisory counsel. The executive committee announced that the next annual convention would be held at Savannah, Ga., beginning November 15, 1948.

Meanwhile, commission secretaries in attendance at the convention had held a meeting to carry out an executive-committee decision calling for reactivation of committees on the business of secretarial offices which were suspended during the war. This set-up, as now revived, consists of a central committee and four regional subcommittees, and Edward T. Kaveny, secretary of the Wisconsin Public Service Commission, was elected chairman of the central committee, the membership of which includes W. P. Bartel, secretary of the I. C. C.

Big Problems Ahead

After the customary greetings and other preliminaries at the convention's opening session, Commissioner Swanson of Nebraska made his presidential address. Since the 1946 convention, he said, the association had been engaged in its continuing "battle to preserve state regulatory jurisdiction in the local field traditionally occupied by the states." And he looked forward to "an interesting and active year" for the state commissions.

"The postwar adjustments in the nation's economy are far from settled," Mr. Swanson said in the latter connection. "Major wage and price shifts are still in the offing; sporadic but far-reaching work stoppages are likely to be experienced; critical material shortages are yet with us. These economic factors will have a direct bearing upon the adequacy of, and the manner of rendering, utility and transportation service, and the cost of such service to the users. In such economic climate there can be no dearth of regulatory problems. Many of them will loom large and call for urgent action."

With respect to railroad transportation, Mr. Swanson predicted that attention will be focused upon the national situation. "The state commissions," he said, "will have an interest in the progress of the class rate and classification cases, I. C. C. Nos. 28300 and 28310, the express rate case, Ex Parte 163, the pick-up and delivery case, I. C. C. No. 29555, and the small shipments case, I. C. C. No. 29556, for each of these are cooperative proceedings. The recent Interstate Commerce Commission order authorizing a 10 per cent increase in passenger fares on eastern railroads, I. C. C. No. 29711, is calling for considerable state commission work, as petitions for intrastate increases have been filed in all eastern states except Michigan and Illinois, where the intrastate fares are controlled by outstanding section 13 orders."

Carload Traffic Studies

Mr. Nichols' discussion of "discrepancies" he has found in the rate structure was preceded in his presentation by descriptions of the waybill data transferred to the commission upon the death of B. I. R., and of the statistical methods employed in its analysis. He said that the studies being made from the data comprised what might be termed the "first national inventory of the freight rate structure." As reported by Mr. Nichols, who emphasized that he spoke for himself and not the commission, the studies thus far reveal, among other things, that there are "extremely high or low rates for equal distances which seem to bear no relationship to costs or to traffic densities or other rate-basis factors." Many of the "extremely low" rates were found to be intrastate rates.

In calling the well-publicized variations in class rates "rather minor" as compared with differences in commodity-rate scales, Mr. Nichols said that not only are the commodity-rate "discrepancies" often greater, but commodity rates are applicable on "approximately 75 per cent of the carload tonnage." Also, the bulk of this tonnage moves intraterritorially, which prompted Mr. Nichols to suggest that the rate-discrepancy issue is more of an intraterritorial problem than an interterritorial one.

The B. I. R. material was collected on the basis of 1939 traffic, and it showed that 57.42 per cent of the carload volume then moved within Official territory; 7.65 per cent within Southern territory; 10.42 per cent within Western Trunk Line territory; 4.6 per cent within Southwestern territory; and 5.99 per cent within Mountain-Pacific territory. Thus, Mr. Nichols calculated, there remains only 14 per cent of the tonnage moving interterritorially. He pointed out, however, that the interterritorial movements for the most part cover longer distances and thus involve more than 14 per cent of the revenues.

Suggests More Cost Finding

Mr. Nichols supported his general observations with numerous specific examples based on point-to-point studies of rates on potatoes, lime, and paperboard products. He called the examples typical of rate situations found in other commodity groups, meanwhile pointing out that "high" rates were found in areas where the density of all traffic was heaviest while "low" rates appeared where the density was light. The rates involved in the examples used by Mr. Nichols were plotted on charts with which he illustrated his address. Also on the charts were curves showing costs of service as developed from the formulas of Ford K. Edwards, chief cost analyst of the commission's Bureau of Transport Economics and Statistics. The charts indicated that some of the rates were above full costs, including return on investment, as shown by the Edwards formula, while others were below out-of-pocket costs. In this connection Mr. Nichols said that the railroads have not gone very far into the matter of costs versus rates or revenues in specific cases. And he went on to express his belief that the carriers would be more than repaid in a single year for the expense involved in such an inventory.

The waybill data have also revealed that circuity of open routes was highest in 1939 in those areas where, as Mr. Nichols put it, the railroads "have had the most financial trouble, i. e., in Southern, Southwestern and Western Trunk Line territories." He conceded that the financial situation has changed somewhat since that time. Meanwhile, he said that the overall circuity was 17 to 18 per cent for the 1939 traffic; but he suggested that to produce that average "a large amount of traffic must move from 30 per cent to 50 per cent circuitous because a large proportion moves actual short line."

While his discussion of "Regulated Monopoly vs. Regulated Competition" was addressed in the main to the motor carrier situation, Chairman Ashley of the Wisconsin commission included in it an expression of his general view that "the very essence of sound transportation is competition but not destructive competition." The "ideal" toward which regulatory authorities are working, he said, is "to give the public the greatest benefits with the minimum of governmental interference." He added that "the more administrative agencies become aggressive in eliminating the exercise of managerial discretion by the individuals under their jurisdiction, the greater will become the pressure by such individuals to obtain through legislative action a curtailment of the authority of the administrative bodies."

"In my opinion," Mr. Ashley continued, "there is but one conclusion that can be drawn at this stage and that is that the entire subject hinges upon the degree of competition that regulation shall permit, rather than upon any idea that the transportation business is inherently a monopoly or should be regulated as such. . . .

"Undue competition has resulted in severe detriment to the public. A great many of the railroad abandonments were precipitated by unregulated truck competition. Upon the inception of the laws regulating truck transportation there were reserved to the truck lines their so-called 'grandfather rights.' As a result the evils that grew up before regulation were not wholly eliminated. That is, the competition continued as strongly after regulation as before regulation, in so far as number of operators was concerned.

"The railroads, faced with this kind of regulated competition, were unable to recapture their tonnage losses and separated themselves from the particular field of competition. The elimination of the rail line did not necessarily mean increased traffic for the truck lines as might have been expected. Such commodities as coal, sand and gravel, many grains and other heavy-loading articles were not susceptible to long-distance highway movements except at prohibitive costs. Consequently, the industries removed themselves from the particular location that had lost its rail service. The finished products of these industries were the life blood of the truck lines. Removal of the finished product resulted in gradual diminution of service by the trucks and eventual elimination of the truck lines entirely. Many communities in the United States today are entirely devoid of public transportation facilities and have become what we have called ghost towns because of too much competition in transportation."

Resolutions Adopted

Resolutions presented in the report of the executive committee and approved by the convention included one reaffirming the association's position in favor of legislation like that proposed in the pending Reed-Bulwinkle bill to stay the operation of anti-trust laws with respect to carrier rate-making procedures and other joint actions approved by the I. C. C. Leon Jourolmon, Jr., a member of the Railroad & Public Utilities Commission of Tennessee, voted against this resolution after having protested that the proposed legislation would "make it more difficult for the states in 13th section cases," tying the hands of the state commissions "more than anything since the Shreveport case."

Other resolutions opposed legislation designed to limit the practice of nonlawyers before federal agencies, and to create additional federal transportation agencies. Also opposed were the provisions of Senate Bill 1141 which is designed to carry out I. C. C. recommendations calling for a complete rewriting of the Transportation of Explosives Act. The effect of the bill's present provisions, the resolution said, "will be to bring under regulations of the Interstate Commerce Commission, in time of war, the local transportation, by rail, water or air, and upon the highways, of gasoline, lumber, cotton, hay, grain and other products and commodities . . . for whatever purpose, and however limited such transportation may be."

These approved resolutions were among others which came to the executive committee from the report of the committee on legislation. That report was otherwise a review of legislative matters of interest to the commissioners and an account of legislative activities of the association's staff. H. Lester Hooker, of Virginia, was chairman of the committee.

The report of the committee on services and facilities of transportation agencies (Guy R. Johnson of Pennsylvania, chairman) first discussed the motive power situation on the railroads, noting how the carriers were "handicapped" during the war "by failure to obtain needed new equipment, and by shortages of materials and supplies." Also reported was the trend toward

Dieselization, in which connection the committee found it interesting to note that District 4 of the United Mine Workers had announced that it "will fight, in the state legislature of Pennsylvania, the Pennsylvania Railroad's program to replace a considerable number of steam locomotives with Diesels."

With respect to freight service, the committee noted that despite the heavy 1946 volume of traffic, railroad operations were "generally unprofitable," and thus the Ex Parte 162 increases were granted. It also mentioned the car shortages with which shippers have been "harassed," and proceeded to report that of the freight cars on order some will be "lighter and more durable," having "the advantages of combining high-strength steels and welded construction."

Credit for R. R. Young

Passenger services, the committee found, have tended to return "to prewar conditions in the competitive field," with the railroads meeting their competition "by improving service, speeding up schedules and installing more modern, attractive and efficient equipment." The Chesapeake & Ohio, "through its chairman, Robert R. Young," was given credit for having "again taken the lead in instituting new and far-reaching improvements in railroad passenger travel when it instituted in January, 1947, the charge-it-as-you-go plan similar to the one . . . which the other railroads soon adopted." The report as a whole was based mainly on information gathered from publications in the transportation field, including *Railway Age*, which was cited 10 times in the report's bibliography.

The report of the committee on progress in the regulation of transportation agencies, of which Jeff A. Robertson of Kansas was chairman, stated that commissions with regulatory authority over transportation agencies have recently "had much to do, especially with respect to rate matters." Reviewing the situation in the railroad field, the committee mentioned briefly such proceedings as the Ex Parte 162 rate case; the revival in the present Congress of the Bulwinkle bill; Georgia's anti-trust complaint; the I. C. C.'s recent order requiring railroads to install block-signal systems and automatic train-control devices on high-speed lines; and the pending I. C. C. proceedings involving the per diem rate for the hire of freight cars. As to the car shortage, the committee stated that the period covered by its report had brought no improvement.

Agnes Mae Wilson of Missouri presented the report of the committee on rates of transportation agencies, of which she was chairman. Giving results of a poll taken by the committee, the report said that the Ex Parte 162 increases, "with slight modifications in many instances," had been authorized for intrastate application in 41 states as of last April 15. In the remaining seven states the matter was still pending. Of the 41 state regulatory bodies authorizing the increases, 27 acted after formal hearing and the remainder permitted the increases to become effective without hearing. In its discussion of motor carrier rates the committee referred to efforts of the truckers to increase their general rate levels in proportion to increases granted the railroads. It thus found "currently in process a cumulative attempt on the part of all transportation agencies to obtain increased revenues consistent with increased costs of operation."

The committee conceded that, "within the bounds of the Interstate Commerce Act and most state statutes," this is a "legitimate undertaking"; but it went on to observe that "there is the danger of subjugation of the principle of competition in the field of transportation . . . in favor of what amounts at times to an inclination on the part of some carriers to charge shippers all that their traffic will bear under present economic circumstances." The report said further on this subject that it had been suggested to the committee that, since the I. C. C. has no section 13 authority over motor carrier rates, "there should be a special attempt made by the commission under its cooperative procedure with the various states to bring about a nationwide investigation and adjustment of motor carrier revenue needs, both intrastate and interstate, that would be logical and consistent with the needs as they are made evident."

The special committee to promote uniformity of state size and weight regulations affecting motor carriers (Lawrence W. Cannon of Indiana, chairman) reminded the delegates that it has, since its creation in 1941, "consistently recommended" that the states enact legislation to bring about "reasonable uniformity" of these regulations. It added that "to repeat again this recommendation would be repetitious and would unduly burden the record of this convention." The report did, however, present a summary of changes since the previous convention in the state regulations. It indicated that 18 states had "liberalized" their requirements during that period.

The report of the committee on safety of operation of transportation agencies, of which C. L. Doherty of South Dakota was chairman, stated that the train-accident record of the period under review showed "little change from last year." It went on to refer briefly to some recent accidents caused by defective equipment, adding that they indicated a need for "more careful inspection." Meanwhile, the committee had conceded that the railroads "are promoting and teaching safety and have made great strides and are deserving of credit.

Grade crossing accidents, as the report put it, "are still one of the great problems" before the committee. But the grade crossing problem "is not entirely a railroad problem but a traffic problem of general public interest," the committee said in closing. It went on to offer again its previous recommendations that grade-crossing protective devices be made uniform, and that the federal and state authorities accept for that purpose the recommended standards of the Association of American Railroads.

Uniform Classification

The report of the special committee on uniform motor freight and railroad classification (John B. Smith of West Virginia, chairman) dealt with the work the railroads are doing to comply with the I. C. C. order in No. 28310, calling for the establishment of a uniform classification for application throughout the country. The railroads' committee on uniform classification, the report said, is now "actively progressing" with the proposed classification ratings. It went on to outline the procedure being followed by the railroad committee, summarizing as follows: "In general, the committee will take up the work of classification in alphabetical order of articles listed; however, it has been decided that the first docket shall embrace a wider variety of items than would result if strict alphabetical order were followed. In order that this first docket will be in the nature of a composite cross-section of the integrated classification upon its completion, it is planned to include traffic which is light and bulky, heavy and compact, raw materials and finished products of high and low value, and requiring the use of box cars, open cars and refrigerator cars."

The report went on to say that the railroad committee is expected to publish "within a short time" this first docket, proposing uniform ratings on approximately 13,700 items in the following commodity groups: (1) Machinery or machines; (2) fresh fruits and fresh or green vegetables; (3) building woodwork or ships' joiner work, wooden; (4) lumber, veneer or forest products; (5) meats—cooked, cured, fresh, or preserved; lard and lard substitutes; rendered pork fats; and dressed poultry; (6) paper bags; (7) paper; (8) paper articles; (9) wallboard.

Electro-Motive 2,000-hp. Diesel at the head of the experimental train

General Motors "Train of Tomorrow" Is on Exhibition Tour

New equipment is attracting wide attention because of many innovations in design including the Astra Dome

FOLLOWING an initial press run from Chicago to French Lick, Ind., and return on the Monon, as described in the *Railway Age* of May 31, the spectacular new General Motors "Train of Tomorrow" departed on an exhibition tour of eastern cities which included a six-day showing at the A.A.R. and R.S.M.A. June convention in Atlantic City, N. J. Keen interest in the train was demonstrated by 150,000 visitors who went through it in less than 150 hr. of public showings in three large cities and a number of smaller communities. In fact, one small town in Pennsylvania is reported to have closed both shops and stores simply to watch the train pass through. The total number of people who inspected the train up to July 9 at Richmond, Va., was 290,368.

After its eastern trip, the "Train of Tomorrow" will be returned about the middle of August to the Pullman-Standard shops at Chicago, and given a thorough check-over preliminary to further exhibition, including a western tour the details of which have not yet been announced. According to original plans, the train will be exhibited at various cities throughout the country for a period of about six months, following which it will be available for purchase and use by any railroad interested.

Train First Planned in 1944

The central idea of this train originated with General Motors in 1944 and subsequent practical suggestions from railway officers and transportation experts were combined in a four-car Astra Dome train which includes an Electro-Motive 2,000-hp. Diesel locomotive, one chair car, one sleeper, one dining car and one observation-lounge car. Electro-Motive engineers worked in conjunction with the General Motors styling section and engineers of the Pullman-Standard Car Manufacturing Company, which developed detail engineering designs and built the cars.

In addition to the Astra Domes, 30 ft. long, special features of the train include air-conditioning equipment throughout, furnished by the G. M. Frigidaire Division, anti-friction journal-box bearings supplied by the Hyatt Bearings Division, and electric generating equipment for all car lighting and power purposes supplied by the Detroit Diesel and the Delco Products Divisions of General Motors. The latter equipment provides an independent Diesel-electric power supply on each car. An additional 40-kw. power unit is required on the all-electric diner.

All cars include Rador train-heating and temperature-control equipment, and extensive use is made of fluorescent lighting and fixtures of unusual design. The Thermopane glass installation in Astra Domes and other car windows is designed to assure maximum safety and protection from sun glare and heat. There are two luggage compartments, one on either side of the rear exit of the chair car, with outside doors for quick and easy removal of hand luggage. A radio-recorder and public-address system is installed and provision is made for telephone service while the train is either still or in motion. The train is equipped with electro-pneumatic brakes and wheel slide control, also hot bearing detectors.

Dining under the Astra Dome

The trucks are designed with outside swing-hanger suspension, an Electro-Motive development which tends to minimize sidesway. The truck wheels were dynamically balanced.

The E.-M. 2,000-hp. Diesel locomotive is 71 ft. long and has a loaded weight of 318,000 lb. Each of the cars is 85 ft. long. The chair car has a light weight of 147,000 lb. and a seating capacity of 72, including the Astra Dome. The dining car has a light weight of 160,000 lb. and seating capacity of 52, including 18 in the Astra Dome and 10 in the private dining room. The total refrigeration space supplied in this car is 111 cu. ft., and ice-making capacity, 225 lb. of ice cubes in 24 hr.

Construction of the Cars

The sleeping car has a light weight of 150,000 lb. and passenger capacity of 24 sitting and 20 sleeping, exclusive of 24 seats in the Astra Dome. This car is designed with two three-berth drawing rooms, three two-berth compartments, and eight duplex roomettes for single occupancy. The observation car has a light weight of 141,000 lb. and seating capacity of 68. This car is designed with a rear main lounge, cocktail lounge, lower bar and Astra Dome.

The total length of the train, including the locomotive, is 411 ft.; car heights, rail to Astra Dome roofs, 15 ft. 6 in.; empty weight, 920,000 lb.; loaded weight, 977,000 lb.; exterior finish, steel and glass, blue and silver; interior finish, metals, wood plastics and fabrics in 37 colors; total passenger capacity, 216.

The "Train of Tomorrow" cars are built primarily of low-alloy high-tensile steel, using the Pullman-Standard welded-girder design with certain modifications in the underframe and roof framing to accommodate the Astra Dome on each car.

The structures are designed to meet fully the requirements of the R.P.O. specifications and the latest A.A.R. recommended practice as adopted for new passenger-train cars.

To provide for the lower-level floor under the dome, which is depressed into the underframe, it was necessary to cut off the longitudinal underframe members at each end of the dome section where they are attached to heavy built-up arc-welded box-section beams, placed crosswise of the car. These beams are connected at the side post lines to built-up welded box-section members, placed longitudinally, which transmit buffing loads through this section of the car. The box-section members line up horizontally with the center sills to avoid eccentric loading and their cross-sectional area exceeds that of the center sills. Zee and angle side sills extend the full length of the car and are riveted in the dome portion to the box-section members.

The floor in the lower level is supported on built-up arc-welded H-beams, placed crosswise of the car and extending up and connected to the side sills. Pressed Z-shape longitudinal stringers are placed between the beams. Bottom sheets of steel are arc-welded to the underframe members so as to tie together all underneath framing at this portion of the car.

In the roof, the rolled Z-shape side plate is replaced with a built-up arc-welded box section extending the full length of the car. This reinforced side-plate section carries the compression stresses in the roof and makes up for the loss of material in the roof because of the cutout for the dome.

The dome roof members between the windows are box sections made up of flanged channels spot-welded together except at the car center line where the air duct is located. All roof members are fitted and arc-welded together and the whole unit is arc-welded to the main roof members. These members do not carry any stresses from static loading in the car, flexible connections to the main roof members having been provided at certain points to accomplish this result. The dome roof construction is equal in strength to that of the balance of the car roof.

The upper floor in the dome is supported by a structural member extending the full length of the dome and the full width of the car. This member is made up of double sheet steel with spacers between placed crosswise of the car; spacers and sheets are spot-welded and riveted together.

The completed assembly is securely fastened to the side framing of the car so that in addition to supporting the floor, it acts as a tie between the two sides for the length of the dome where the regular roof framing has been cut away.

Tests Conducted

To prove the strength of the design, several physical tests were conducted using as a specimen the car structure for the sleeping car. These tests included a static load test, torsion jacking test and A.A.R. compression or squeeze test. The first two were conducted in the Pullman-Standard plant under the joint direction of engineering department representatives of the Electro-Motive Division and Pullman-Standard. The third test was conducted at the Altoona, Pa., test plant under the supervision of A. A. R. representatives.

In the first test, a 100 per cent overload in the car failed to show excessive stress on any of the 250 strain gages applied at critical points throughout the structure. Most gages showed stresses lower than expected.

In the second test, performed to check the stresses and deflection when jacking a fully-loaded car at the four corners with the added condition of having one jack fail, no gage showed excessive stress and there was little deflection at the unsupported corner of the car.

In the third test, the car showed an average deflection between body bolsters of 0.485 in. when a maximum load of 839,396 lb. was applied on the center-sill ends, this deflection being well with-

in the limits set up in the A.A.R. specifications.

The "Train of Tomorrow" coach, or general-purpose day chair car, lends itself to a variety of uses, depending upon the length or type of passenger run on which such a car might be scheduled. It will seat 72 passengers, 24 in the Astra Dome in the roof, which provides unrivaled opportunity to observe the scenery in all four directions.

The lower section of the coach, on the depressed floor level directly beneath the Astra Dome, is divided into three partly segregated compartments, offering accommodations for 20 passengers, two seating seven persons and one six. They are reached from openings into the lower portion of the passageway, from which walls have been cut away at about shoulder height.

The forward and rear sections of the coach, at standard floor level, have 16 and 12 seats respectively. Chairs are of the reversible type with adjustable footrests. Each seat reclines to nine positions. There are two dressing rooms at the rear of the car and two smaller lavatories at the front.

As an example of one of the color schemes used in the train, the ceiling and the side walls in the main coach sections are light yellow, while walls of the passages at the ends and in the center are gray. The lower portion of this surface, to window height, is a wear-resisting plastic material, to withstand rubbing from baggage. Draperies are Chinese lattice of gray and yellow and the seat upholstery is a diamond pattern in gray and green.

Lighting is direct in the center, supplemented from the side and above by beamed light directed straight to each chair for reading purposes. A partition in the stairway to the Astra Dome houses a locker for section tables, recessed water cooler, cup dispenser and empty-cup receptacle. There also is located the inter-train telephone, porter's seat, annunciator and chimes, and a coat locker for persons using the Astra Dome.

Sleeping Car

Occupants of the sleeping car can stretch their legs in 50 per cent more free floor space during the day time and enjoy a reserved chair in the Astra Dome observation roof. The sleeper contains three compartment rooms, each with two lower berths; two drawing rooms, each with two upper and one lower berth; and eight rooms of new duplex roomette design, each for single occupancy. All berths in the car run lengthwise of the train.

Each of the compartments and each of the drawing rooms is decorated in a distinctive combination of colors, carpeting and draperies that is different from all others.

The compartments are on the lower level of the car and one of the berths in each converts to a sofa by day, facing the window. Each compartment also is furnished with a folding, upholstered lounge chair, a baggage rack, shoe compartment, toilet and washstand, a three-quarter length door mirror and a shaving mirror over the washstand.

The two drawing rooms are located forward in the car, at the normal floor level, and may be connected if desired. In addition to the berths, each drawing room contains two upholstered lounge chairs, even when all three berths are made up. The lower berth converts into a sofa in daytime. There is a lavatory and toilet room opposite the entrance to each drawing room and a large overhead baggage space extends the width of the room. There is a wardrobe beside each entrance door. There are two circuline lamps of fluorescent tubing in the ceiling and four reading lights at lower levels. The window is 62 in. wide, giving a picture-window effect. A different interior decorating scheme is carried out in each drawing room.

The duplex roomettes are so built that the level of one is two steps above the aisle and the adjoining one is level with the aisle. In the roomettes at aisle level the berth pulls out at floor level, pushing away, drawer-like, under the floor of the adjoining room when not in use. The berths in the other roomettes pull down from the wall at one end, fully made up. Opposite the sofa there is a high-level recess for baggage, a washstand and toilet.

Dining Car

The dining car, like other units, departs completely from usual design. It affords table service on three levels, one of them in the Astra Dome roof compartment. The second is at the conventional level, taking all the space at one end of the car, and the third section, somewhat smaller, occupies part

Main dining room and steps leading to the Astra Dome

Left—One of the levels of the observation-lounge car which seats 68 persons. Most chairs are movable, thus permitting congenial groups of various sizes to sit together

Facing page — Adjoining compartments in the ultra-modern sleeping car. Each compartment has two lower berths and each differs from all others in its color scheme

Below—Cooking is all-electric in the stainless-steel kitchen which includes such facilities as a dishwasher and a garbage-disposal unit

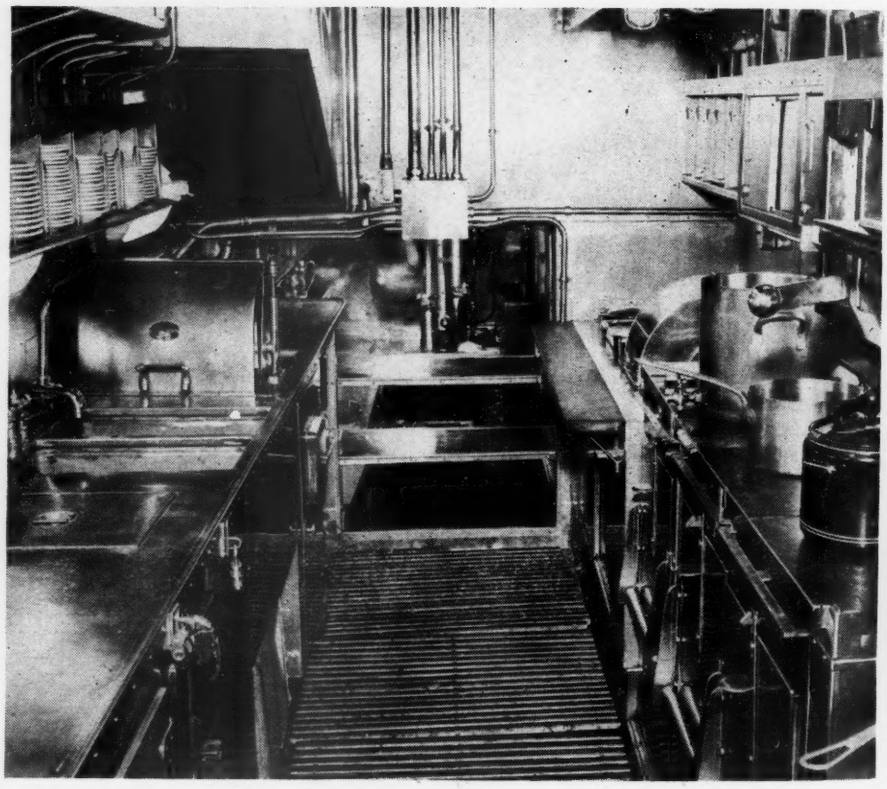
of the depressed central portion under the Astra Dome. A service pantry, connecting to the main kitchen, is also in the lowered portion of the car.

Waiters serving patrons in the dome section receive food and dispatch dishes by means of a dumb waiter connecting to one end of the kitchen directly below.

In the Astra Dome portion of the diner the aisle is off center, providing tables for couples on one side and for groups of four on the other. There is a built-in lamp at each table as well as ceiling lighting. Wide vision windows are installed. The forward space in the Dome is given over to service, the furnishings including a china locker, refrigerator, coffee maker, toaster, silverware racks, bottle receptacles, an ice well, sink with covers and some storage space.

In the space under the Astra Dome is a reserve private dining room reached by an illuminated glass step down from the passageway. It will seat 10 persons, in two groups of five.

The main dining section seats 24 persons. Tables for two are along one side triangular in shape, with built-in chairs. On the other side of the car, tables for four are set cornerwise of the car, with two built-in seats on the car-wall side and two movable chairs on the sides of the tables nearest the aisle. The arrangement permits access to all seats without disturbing others as well as providing wider passing room in the center aisle. There is direct overhead lighting from circular ceiling fixtures, but these may be dispensed with at times as there also is indirect lighting concealed in satin-finish stainless steel troughs above the window line.



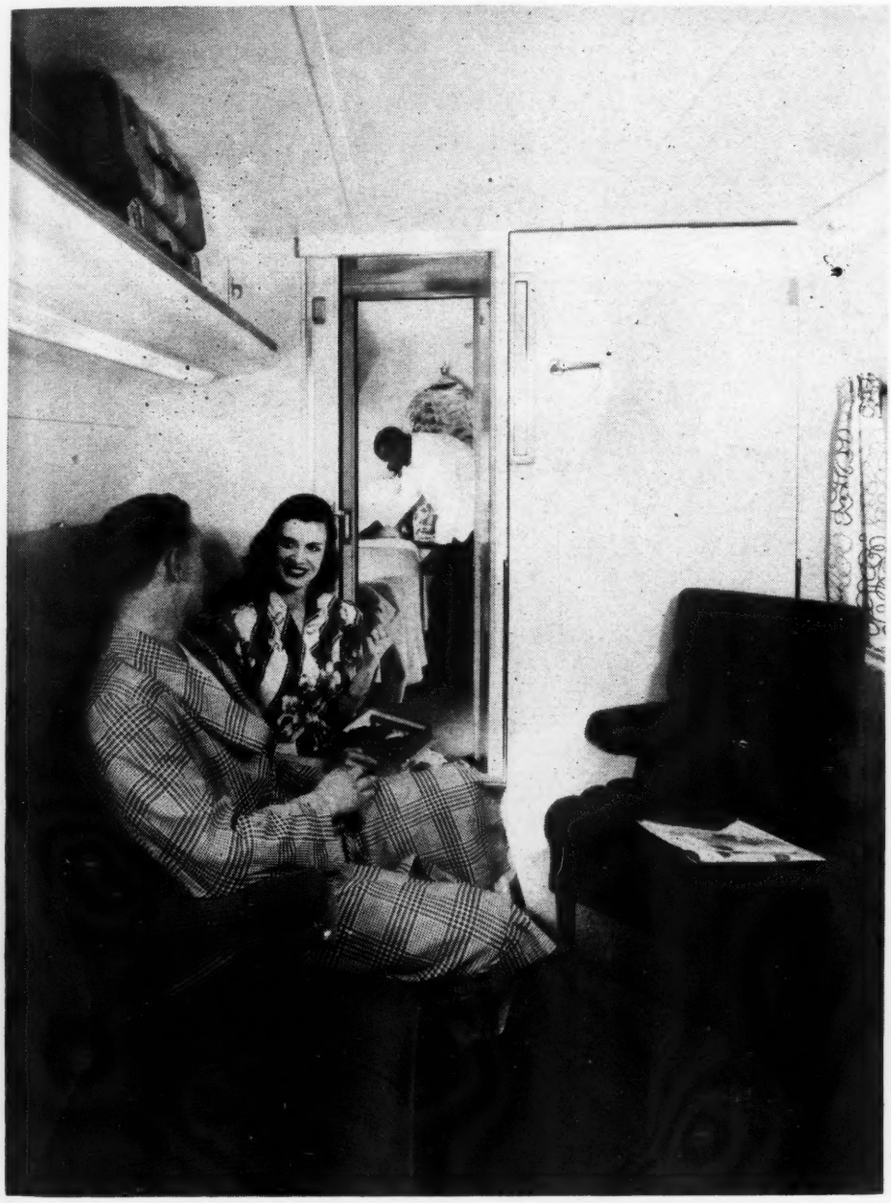
The steward's compartment, to the right of the stairs, contains a refrigerator, the inter-train phone, space for cigars and cigarettes and the steward's locker. Beverage storage lockers also are located beneath and beside the stairway to the Astra Dome.

Cooking and refrigeration facilities in the kitchen and service pantry are arranged for utmost utilization of space. The dining-car kitchen is all-electric, with three ranges, two fry kettles, three broilers, plate and cup warmers, hot food table, two coffee urns, juice extractor, dishwasher and garbage disposal unit, operated by the Diesel-generated power originating within the car itself.

The dining car also has unusual facilities for storing large quantities of fresh and frozen foods, beverages, etc. Eleven separate refrigerated fixtures provide a total of 111 cu. ft. of storage space.

Four compact Frigidaire condensing units, concealed at different locations in the car, furnish, refrigeration to the various fixtures.

There are four levels in the lounge car, with 68 seats, more than half of them movable to permit group formation as in clubs, homes and on shipboard. The dome feature, carrying 24 seats at the scenic above-roof level, can be varied if desired for transcontinental trains, with seats of chaise-longue type. The rear lounge allows a field of vision exceeded only in the Astra Dome.



Viewed from the middle of the car, the rear observation lounge has an oval appearance, with rich dark color in the carpeting and wainscoting, lighter tones above, and harmonizing furniture in turquoise and gray. Most of the chairs in this section are movable. At the end of this lounge, recessed beside the stairway to the Astra Dome, is a desk with radio telephone, clock, radio control and wire recording apparatus.

The lower section of the observation car, beneath the Astra Dome, contains an intimate cocktail room—bar, seating 10 persons. The small bar, at the rear, serves all lounges. It has a Weldtex striated plywood paneling, stained just off natural, with a dark top and a metal and picture-glass back bar and front trim. Chairs in the lower lounge are covered with a honey-colored leather. Tables have hard, non-stainable, non-burnable Formica tops, with a special inlaid design, different on each. The wall covering, Varlar material, also resists stains from ink, lipstick and the like.

The front lounge, at the same level as the rear observation lounge, may be reached either by several steps up from the lower lounge or along the passage to the front entrance. Seats are built in, upholstered in chartreuse nylon with bolster rolls of rose nylon. Light drapes carry on the tropical motif. Inner walls are silver gray. Stainless-steel trim follows the sides and tops of the openings to the passageway. Lighting is from circular ceiling fixtures.

The Astra Dome in this car, as in the others, has conventional coach seating for 24. The carpeting on stairs and the aisle is Araby peach, as in the rear observation lounge. The dashboard at the front of the dome is covered with turquoise leather, as are the arms and bolster rolls of the chairs. The seats are upholstered in a turquoise fabric. Walls and upper structure of the dome are painted in a gray tan.

Air Cooling-Auxiliary Power

The 10-ton air-cooling system, installed in each car, is complete with conditioner, ducts, compressor and condenser units. All units, designed and built by Frigidaire, are engineered for matched operation and high efficiency. This is particularly true of the flood-type condensers which increase the efficiency enough to produce extra cooling required for the Domes without the use of additional electric power.

The conditioner cools or heats air and circulates it to ducts ingeniously built into the varying structure of the cars and designed to deliver tempered air to all parts of the cars. The compressor pumps heat-laden Freon gas from the cooling unit and compresses it, the condenser then dissipating the heat in converting the gas back to liquid form and returning it to the evaporator cooling unit. Controls are automatic, regulating the temperature and humidity under all conditions, as desired.

Electric power for air-conditioning, lighting and all other purposes is supplied by the Detroit Diesel-Delco independent power unit, which is mounted on rollers under the car and may be pulled out for easy inspection and maintenance.

The device in this power unit is the split-alternator, simply described as two alternating-current generators built on a common shaft and in a common frame, driven by a 45-hp., 3-cylinder, 1,200-r.p.m. Diesel engine. This ingenious arrangement enables a 15-kw. generator to furnish 220-volt, 60-cycle current for air conditioning and refrigeration equipment, while a 10-kw.

generator furnishes 115-volt, 60-cycle current for lighting, ventilation, radio, electric shavers and other uses, plus reserve for an adjoining car if needed.

Mounted on the side of the split-alternator housing, driven from the extended shaft by V-belts, is a 38-volt, 1,800-r.p.m. direct-current generator providing two to three kilowatts as required. This same d.c. generator excites the fields of the split-alternator and also charges the storage battery used for starting the engine, for controls and emergency lighting.

The Diesel engine that is the original power source for the foregoing is tilted on its crankshaft axis for better roadbed clearance, and to give accessibility to valve rockers, fuel injectors, oil filler tube, governor and other parts. The unit is fully enclosed beneath the car, protected from dirt and extreme temperatures, ventilated by clean air drawn from the interior of the car, rubber-mounted to deaden sound and dampen vibration, and equipped with a sealed-in cooling system that requires no servicing.

Auxiliary Power Unit

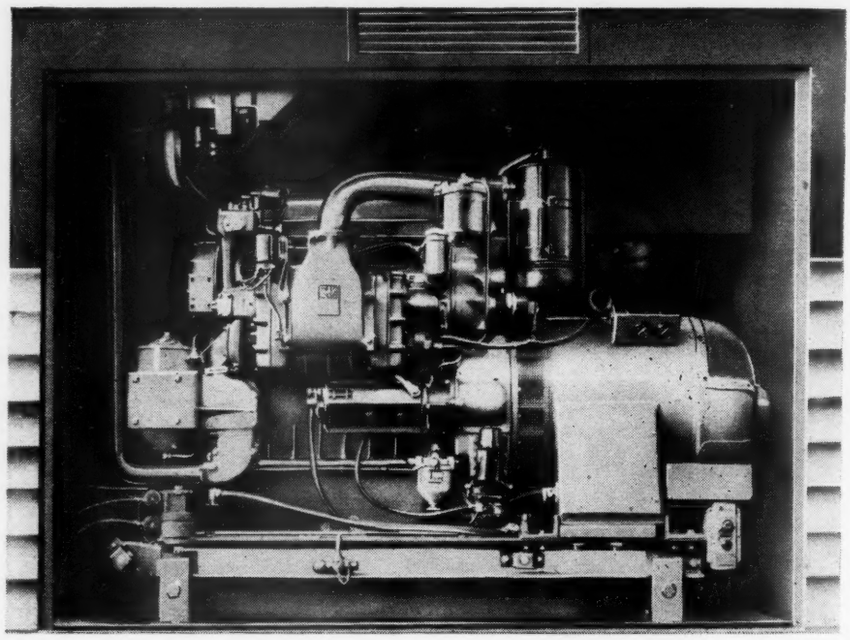
The auxiliary power unit in the dining car consists of a 4-cylinder Detroit Diesel engine driving a 40-kw., 220-volt, 3-phase generator. It is operated only when additional current is required for the kitchen appliances.

It is said that use of these independent power units, as compared with axle-driven systems, reduces the locomotive trailing load on a 12-car train as much as 600 hp., saves 3,500 lb. or more in battery weight, gives full and constant electric output regardless of whether the car is rolling or still, increases reliability, reduces fuel cost and also minimizes maintenance expense.

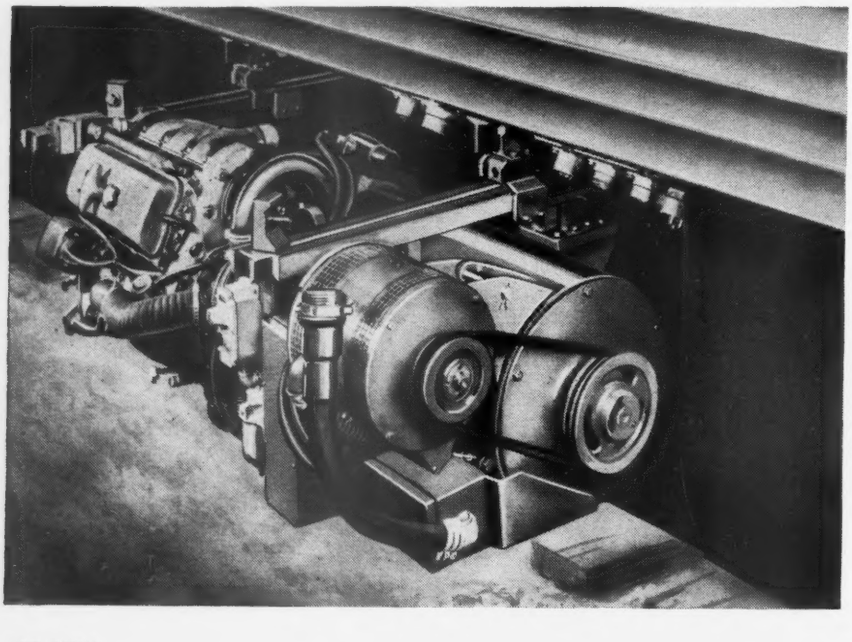
The "Train of Tomorrow" cars have demonstrated exceptionally smooth riding qualities due primarily to the truck construction, which incorporates Electro-Motive type outside swing hangers, Hyatt roller bearing journal boxes which cushion the lateral movement of the axles, coil spring suspension, hydraulic shock absorbers and composition cushioning pads to dampen vibration and noise.

In the standard suspension of railroad cars, swing hangers are mounted inside the truck frame, 56 in. apart at the lower end as compared with 96 in. in the "Train of Tomorrow" trucks. This difference tends to reduce car body roll, and angular placement of the spring hangers causes automatic banking on curves in proportion to the speed of the train and the degree of curvature. Total car sidesway is limited by this construction and in a test was found to be less than 6 in. total at the roof level, as compared with 28 in. on a car with conventional trucks.

Controlled lateral movement of axles in the Hyatt journal boxes is cushioned on a synthetic rubber member interposed between the axle thrust block which engages the end of the axle intermittently and the front or outside cover of the journal boxes. In passing over track irregularities or curves, for example, axle side thrust is effectively cushioned by this construction.



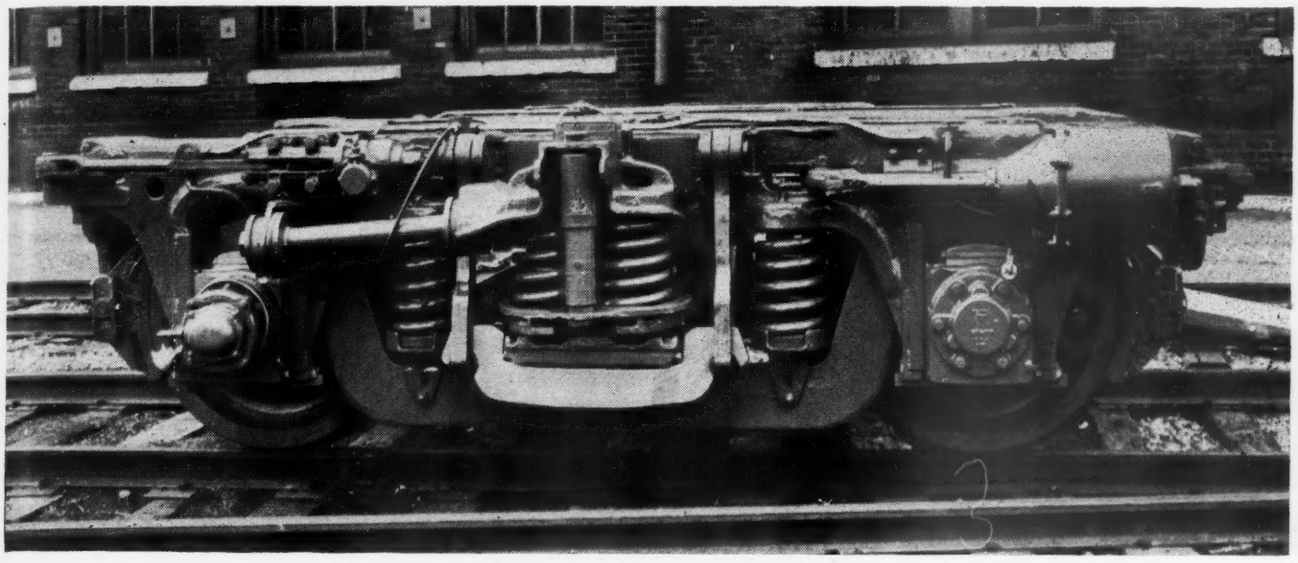
Above — Supplementary 40-kw. Diesel power plant installed in the electric diner



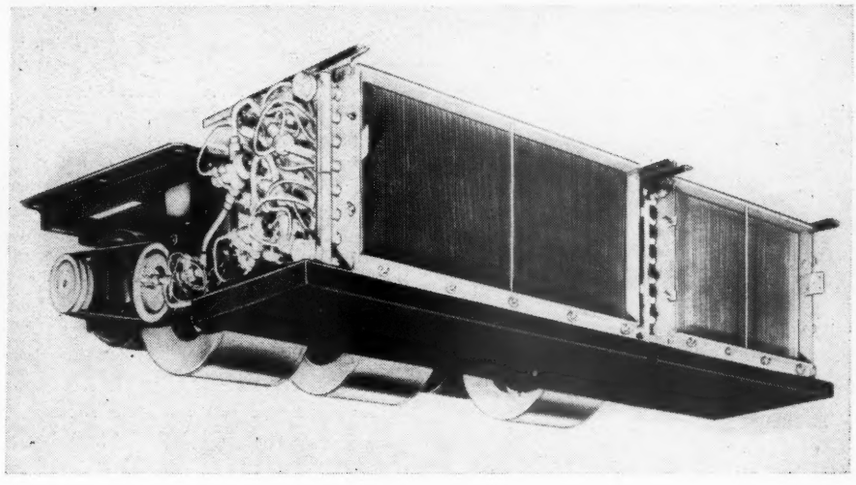
Left — Detroit Diesel-Delco "power package" mounted under each car

Coil spring suspension, in conjunction with Delco direct-acting hydraulic shock absorbers, assures a resilient truck with harmonic oscillations at critical speeds suitably dampened. An additional transverse and horizontal shock absorber installation is made on the rear truck of the observation lounge-car to prevent excessive whip action when rounding curves at high speeds.

To dampen high-frequency vibration still further and minimize noise, ½-in.



Above — The truck has outside swing hangers



Right — The Frigidaire air-conditioning unit is located above the ceiling in each car

Fabreeka pads are applied under the equalizer coil springs, side bearings and journal boxes, ⅝-in. pads under the truck center plate castings and 1¾-in. pads under the spring planks.

The car wheels were dynamically balanced on a Bear No. 400 machine at 325 r.p.m., and amounts of metal varying generally from 1 to 15½ ounces were removed by hand grinding from indicated points on the underside of the rims to bring the wheels into accurate dynamic balance for smooth operation at high speeds. Balancing the wheels is also expected to give increased wheel and roller-bearing life, and to reduce truck and car maintenance expense.

Mechanical Accessories

In addition to the unique structural arrangement of the cars and the striking pattern of colorful interior decorations, numerous mechanical accessories and new materials add much to the comfort of passengers.

All windows, including those in the Astra Domes, are glazed with special railroad Thermopane, consisting of two panes of glass separated by a dehydrated air space hermetically sealed in at the glass factory by a metal-to-glass bond. The outside sheet is heat-absorbing, glare-reducing polished plate glass and is heat treated or tempered for extra strength. The inner glass is composed of special laminated safety glass —really two panes of glass with an intermediate layer of plastic similar to automotive safety glass. The plastic has characteristics which further reduce glare. Tests indicate that these Thermopane units resist hurled objects better than steel of the thickness used in the regular roofs of the Astra Dome cars.

The radio, public address and wire recorder system has speakers located throughout the train, including the Astra Domes. The system is so arranged that it may be used for radio broadcasts, public address announcements and station arrivals, or recorded music.

Mobile telephone service of the type now furnished by Bell System companies in numerous parts of the country for vehicles and other mobile units is installed on the "Train of Tomorrow." While the handset telephone installed in the observation car is not available for public use during the train's nationwide tour, successful calls have been made while the train was in range of Bell System urban land radiotelephone stations. These calls, made while the train was moving at top speed, travel part of the way by radio and part of the way by wire. Connections can be made through regular telephone switchboards with the general telephone system.

Manufactured by the Western Electric Company, and installed by the Illinois Bell Telephone Company, the train's installations also include two telephones which can be used in railroad stations equipped with plug-in arrangements for wire connections.

Two-way radiotelephone equipment is also installed on this train. With this equipment two-way communication was established and maintained for 37 min. between the "Train of Tomorrow" and

the "Queen Elizabeth" in mid-ocean on the maiden run of the train.

An intra-train telephone system between fixed locations on each car and in the locomotive keeps all members of the train crew in close touch with each other.

Pneumatic door openers which operate on finger touch are installed on all doors at the ends of cars. Electric clocks are provided in the Astra Domes, on the chair car, sleeping car and observation car.

Mechanical refrigeration to cool drinking water is built into the chair car and cool, fresh water is constantly circulated throughout the sleeping car and is instantly available at faucets in all sleeping quarters.

New Materials

The following newly developed materials are used in the interiors of various parts of the cars:

Varlar wallpaper has a plastic coating applied on the outer surface so that it may be cleaned with soap and water.

The paneling in some of the dressing rooms for wall covering is a colorful new United States rubber plastic. It is laminated, .025 in. thick, with a hard, non-porous surface. The finished board is cemented in place on wood, metal or other smooth surface.

Another U. S. Rubber plastic used for floor coverings in the dressing rooms, toilets, vestibules, steward's section, etc. and also on a portion of the passageway walls on the chair car is a combination of synthetic resins which has not yet been used commercially. It was made in 17 colors to suit the styling of the train.

The Nylon fabric, used for seat covering on some of the furniture, has a hard surface which can be cleaned easily.

Special lighting fixtures were designed to fit the individual styling of all compartments. All lighting is fluorescent, except for emergency and vestibule lighting.

The familiar "Watch Your Step" of railroad safety shows through illuminated glass steps at several places in the car interiors.

Hand rails for the safety of passengers are provided at the passageway ramps and at the Astra Dome stairs.

Still another safety feature is the Westinghouse hot-journal detector system, installed in the locomotive and all cars, which gives suitable warning-light indication to train-crew members whenever an excessive temperature develops in any of the journals.

The exterior of the train is finished with a glistening blue-green on its sides and roof, punctuated by decorative moldings and sheathing below the windows which have a bright, silver finish.

Partial List of Materials and Equipment on the General Motors "Train of Tomorrow"

Steel sheets	American Rolling Mill Company, Chicago Inland Steel Company, Chicago Youngstown Sheet & Tube Co., Chicago
Sheets and extrusions	Aluminum Company of America, Pittsburgh, Pa.
Steel strip	Weirton Steel Company, Weirton, W. Va.
Stainless-steel strip	Allegheny Ludlum Steel Corporation, Pittsburgh, Pa.
Stainless moldings	Brasco Manufacturing Company, Harvey, Ill. Pyramid Metals Company, Chicago
Steel bars	Republic Steel Corporation, Chicago
Miscellaneous castings	Allied Steel Castings Company, Chicago Calumet Steel Castings Company, Hammond, Ind. Chicago Malleable Castings Company, Chicago Universal Steel Castings Company, Chicago
Truck frames	General Steel Castings Company, Eddystone, Pa.
Axles	Standard Forgings Corporation, Chicago
Wheels, steel plates, shapes, bars, sheets, and stainless steel	Carnegie-Illinois Steel Corporation, Pittsburgh, Pa.
Roller bearings	Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.
Center-plate, equalizer coil-spring, side-bearing, spring-plank, and journal-box pads	Fabreeka Products Company, Boston, Mass.
Draft gears	Waugh Equipment Company, New York
Couplers and yokes	National Malleable & Steel Castings Co., Cleveland, Ohio
Hot-bearing detectors (joint development)	Union Switch & Signal Co., Swissvale, Pa. Westinghouse Air Brake Company, Wilmerding, Pa.
Air-brake equipment	Westinghouse Air Brake Company, Wilmerding, Pa.
Clasp brakes	American Steel Foundries, Chicago
Brake shoes	American Brake Shoe Company, Chicago
Hand brakes	National Brake Company, New York
Insulation	Gustin-Bacon Manufacturing Company, Kansas City, Mo.
Plywood	Haskelite Manufacturing Corporation, Grand Rapids, Mich.
Thermopane sash	Cadillac Glass Company, Chicago
Thermopane safety glass	Libbey-Owens-Ford Glass Company, Toledo, Ohio
Cab signaling and train control	Union Switch & Signal Co., Swissvale, Pa.
Rador train heating and temperature control equipment	Vapor Car Heating Company, Chicago
Air-conditioning equipment	Frigidaire Division, General Motors Corporation, Dayton, Ohio
Air grills	Air Products Company, Waterloo, Iowa
Anemostats	Anemostat Corporation of America, New York
Fans	Westinghouse Electric Corporation, Pittsburgh, Pa.
Electrical equipment	Graybar Electric Company, New York Pyle-National Company, Chicago Westinghouse Electric Supply Company, New York
Car light and power equipment	Detroit Diesel Division, General Motors Corporation, Detroit, Mich. Delco Products Division, General Motors Corporation, Dayton, Ohio
Batteries	Electric Storage Battery Company, Philadelphia, Pa.
Wire and cable	Hazard Insulated Wire Works Division, Okonite Company, Wilkes-Barre, Pa.
Light fixtures	Luminator, Inc., Chicago
Flooring	Tuco Products Corporation, New York
Roller doors	Kinnear Manufacturing Company, Columbus, Ohio
Door operators	National Pneumatic Company, Rahway, N. J.
Locks	Yale & Towne Manufacturing Company, Stamford, Conn.
Hardware	Adams & Westlake, Elkhart, Ind.
Rubber mattresses, sofa and chair seats; plastic floor and wall covering; wall panels	United States Rubber Company, New York
DuLux paints; Lucite decorative panels	E. I. du Pont de Nemours & Co., Wilmington, Del.
Wallpaper	Varlar, Inc., Chicago
Vestibule curtains	Pantasote Company, New York
Furniture	Beck & Blatchford Co., Chicago
Dining chairs	General Fireproofing Company, Youngstown, Ohio
Seats	Heywood-Wakefield Company, Gardner, Mass.
Seat covering, drapery, upholstery fabric, carpet	Goodall Fabrics, Inc., New York
Windsorweave upholstery fabric	Broad Brook Company, Broad Brook, Conn.
Nylon seat covering	Vanity Fair Mills, Inc., Reading, Pa.
Leather	Ashtabula Hide & Leather Co., Ashtabula, Ohio
Upholstering leather	Blanchard Bros. & Lane, Newark, N. J. Eagle-Ottawa Leather Company, Grand Haven, Mich.
Bar equipment	Angelo Colonna, Philadelphia, Pa.
Window capping and table tops	Formica Insulation Company, Cincinnati, Ohio
Flat and hollow ware	International Silver Company, Meriden, Conn.
Glassware	Libbey Glass Division, Owens-Illinois Glass Company, Toledo, Ohio
Chinaware	Onondaga Pottery Company, Syracuse, N. Y.
Electric cooking equipment; garbage disposal	Hot Point, Inc., Chicago
Refrigeration	Frigidaire Division, General Motors Corporation, Dayton, Ohio
Dishwasher	Hobart Manufacturing Company, Troy, N. Y.
Odorsorbers	W. B. Connor Engineering Corporation, New York
Radio	Delco Radio Division, General Motors Corporation, Kokomo, Ind.
Radiotelephone	Motorola, Inc., Chicago
Train inter-phone	Automatic Electric Sales Company, Ashtabula, Ohio
Bell System mobile telephone	Illinois Bell Telephone Company, Chicago
Magnetone magnetic wire reproducer	Brush Development Company, Cleveland, Ohio
Drinking cups and cabinets	United States Envelope Company, Paper Cup Division, Worcester, Mass.
Blankets	Chatham Manufacturing Company, Elkin, N. C.
Nylon yarn, blanket binding	E. I. du Pont de Nemours & Co., Wilmington, Del.
Dumb waiter	D. A. Matot, Inc., Chicago
Paper products	Beecher, Peck & Lewis, Detroit, Mich.
Uniforms	H. D. Lee Company, Kansas City, Mo.
Water tanks	Scaife Company, Oakmont, Pa.
Storage tanks	Chicago Steel Tank Co., Chicago
Pipe covering	Johns-Manville, New York
Sweat fittings	Chase Brass & Copper Co., Waterbury, Conn.
Hoppers	Duner Company, Chicago
Hoppers, washstands, fittings	Crane Company, Chicago

C. T. C. Saves Train Time on Santa Fe

Efficent use of long sidings with special signaling for No. 20 turnouts are features of a 110-mi. project

THE Atchison, Topeka & Santa Fe has installed centralized traffic control on a single-track freight-train district of 110 mi. between Waynoka, Okla., and Canadian, Tex., the control machine being located in the dispatcher's office at division headquarters in Amarillo, Tex., which is 98 mi. west of Canadian. Previously train movements were authorized by timetable and train orders, automatic block signaling being in service as protection. The siding switches were equipped with spring mechanisms so trains could depart without stopping. Operators were on duty three tricks at Waynoka and Canadian as well as at seven intermediate stations. Thus, all the known methods of authorizing train movements, other than C.T.C., were previously being employed.

The new project includes long sidings, to permit more meets to be made with neither train being required to stop. Signal aspects direct trains to enter and leave the sidings at the speeds for which the new No. 20 turnouts are designed. With allowances for the effects of ascending grades, the sidings and signals are located as nearly as practicable on a time-distance basis. Extra approach signals on curves give trains the benefit of improved circumstances ahead. The lamps on the C.T.C. control panel indicate the location and progress of each train, so that the dispatcher can control signals at the proper time and place to authorize trains to keep moving for close meets. Approximately 80 per cent of the meets between opposing trains are being made with neither train being required to stop. On March 11, westbound passenger train No. 23 met eastbound passenger train No. 2, as well as five eastbound freight trains, on the 110-mi. district, and in all of the six meets neither train stopped.

Freights Save Time

On March 2, eastbound freight train 5035E was authorized by a C.T.C.-controlled signal to leave Coburn at 9:00 a.m., just 10 min. ahead of eastbound passenger train No. 2. The freight went through the siding at Fargo to make a non-stop meet with westbound passenger train No. 23, and proceeded east at 9:45 a.m., about 17 min. ahead of No. 2. Also freight 5035E made a non-stop meet with westbound freight train 5017W at Heman, with the latter going through the siding, and 5035E continued to Waynoka, arriving there at 10:55 a.m., 17 min. ahead of No. 2. If 5035E had stayed at Coburn for No. 2, which it would have done under timetable and train orders, it would have stayed at Shattuck for No. 23, and most likely would not have arrived at Waynoka until about 1 hr.

Above—The automatic graph on the control machine makes a record of the train movements. Below—View showing a train on the main track and the intermediate automatic signals on the siding at Glazier

Eastbound train departing from Canadian

later than it did. The improvement in overall running time results from an accumulation of reductions in delays on sidings and from the elimination of train stops formerly required to operate hand-throw switches when entering sidings. Whereas the through freights previously took 7 hr. 30 min. to 8 hr. or more to make the 110-mi. run, the normal time now is about 3 hr. 30 min. to 4 hr. from departure to arrival.

Time savings are made in the terminals because, with C.T.C., the dispatcher can authorize trains to depart, without delay, when they are ready to go. Previously a train in a yard might be allowed a certain time to depart and reach a designated siding. If it was delayed in the yard longer than anticipated, new orders would be required, entailing further delay. The ability to move a train out of Canadian or Waynoka as soon as it is ready to depart, therefore, not only reduces initial terminal time, but also helps to keep the tracks in these terminals clear so that other trains can pull in without delay.

Formerly, with operation by timetable and train orders, there was a tendency for trains to bunch up toward the far end of the district, and then pull into Canadian, for example, one after another to block the yards and thus hamper terminal work, thereby causing further delays before they could be spaced out again when departing on the next district. Even when westbound trains were spaced uniformly out of Waynoka, the bunching toward the west end was inevitable in numerous instances because of the inherent characteristics of timetable and train-order operation. For example: A leading westbound freight train, with no information that an opposing superior train is late, enters a siding to wait for the meet. In the meantime, the following westbound freight, with run-late information on the superior train, keeps going, and thereby reduces the spacing between the two freights before taking siding. With several following trains on the district, they would bunch frequently, and there was not much that the dispatcher could do about it; certainly he could not run one train around another. With C.T.C., the dispatcher can keep the trains spaced over the district, and bring them into Canadian or Waynoka at intervals, so that the yards or station layouts will not be congested.

Helper locomotives used on tonnage trains westward from Waynoka to Curtis formerly lost time in returning to Waynoka under timetable and train-order operation. Four such crews worked 12 to 16 hr. daily. Now, with the C.T.C., these helpers can be moved back to Waynoka promptly, and, as a result, only three such crews are needed and they seldom work more than 8 hr. Previously, helpers were used on some trains eastbound out of Canadian to Glazier on a long 0.6 per cent grade. With the power switches and signals under the control of the dispatcher, he can give preference to any heavy eastbound train so that it can go all the way up the grade without stopping.

Eighteen to Twenty Trains

The traffic on the Waynoka-Canadian district includes two passenger trains and about seven to nine through freight trains each way daily. A local freight is operated westward on Monday, Wednesday and Friday, and eastward on Tuesday, Thursday and Saturday. Thus the number of trains operated on this single track may range from about 18 to 22 on normal days, with occasional peaks of 30 or more.

Waynoka is on the Cimarron river at Elevation 1,475 ft. above sea level, and Canadian, 110 mi. farther west, is on the Canadian river at 2,344 ft. elevation. As the line rises from the valley of the Cimarron river, there is an ascending grade westbound of about 0.8 to 1.0 per cent for about 11 mi. between Belva and Curtis. In this section, helper locomotives are used on westward trains which have sufficient tonnage. As the line rises from the Canadian river there is a steady ascending grade eastward for about 10 mi. from the bridge to Glazier. Between Woodward and Tangier, about 10 mi., the grade ascends westward at 0.5 to 0.6 per cent. On the remaining portions of the district the grades are rolling, but do not exceed 0.6 per cent.

By employing helpers on the 11 mi. of 1 per cent grade westward between Belva and Curtis the tonnage ratings are based on a ruling grade of only 0.6

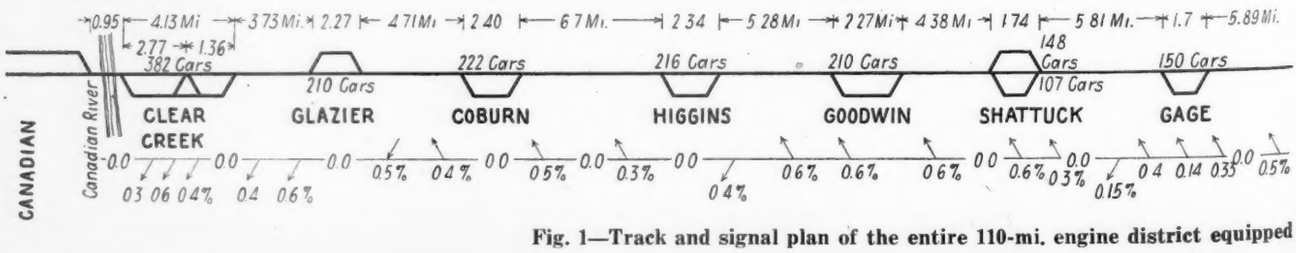


Fig. 1—Track and signal plan of the entire 110-mi. engine district equipped

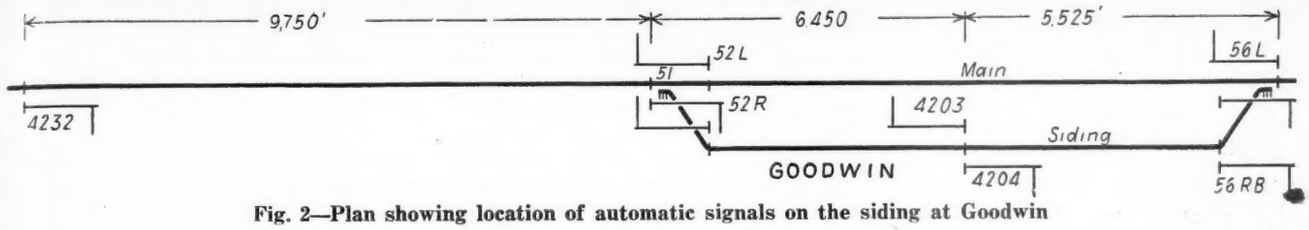


Fig. 2—Plan showing location of automatic signals on the siding at Goodwin

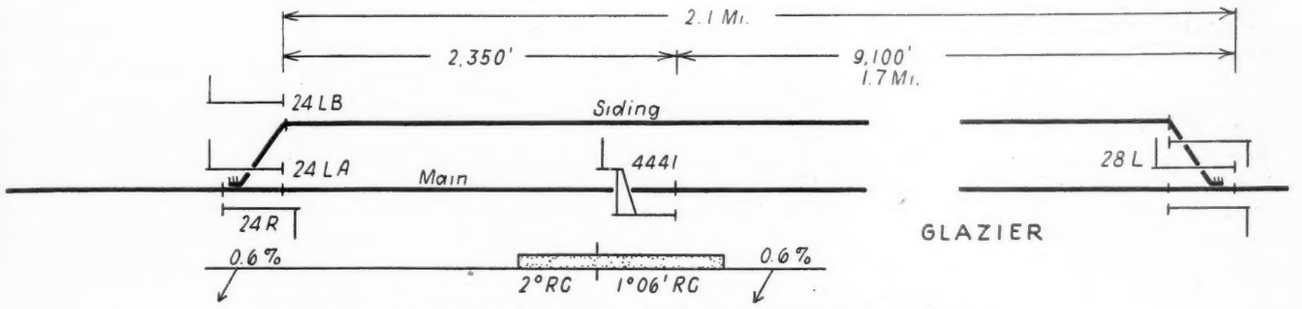


Fig. 3—Extra approach signal on main track within station limits

per cent. The rating for the 5,000 Class locomotives between Waynoka and Canadian is 3,650 tons westbound and 5,500 tons eastbound. Heavy wheat traffic is brought in on a branch which connects with the main line at Shattuck. This grain moves east, and the grades are such that eastbound trains can fill out to 6,800 tons at Shattuck for the run to Waynoka. The through traffic ranges from 650 to 750 cars each way daily. Traffic originating on this district, such as wheat and stock, varies in volume during different seasons.

Sidings Lengthened

In the previous arrangement there was a siding, long enough for one freight train, located at each of 15 towns, and two sidings at Shattuck. An important feature of the C.T.C. project was to lengthen all these sidings except the one at Curtis. In general, each siding was extended to a length of about 1.5 to 2 mi., the principal purposes being to allow trains to make running meets with neither train stopping, and also, when necessary, to place more than one train on a siding. The locations and car capacities of the sidings are shown on the plan of the district. Some sidings are longer than two miles. For example, the siding up the grade east of the Canadian river bridge to Clear Creek is 4.15 mi. long.

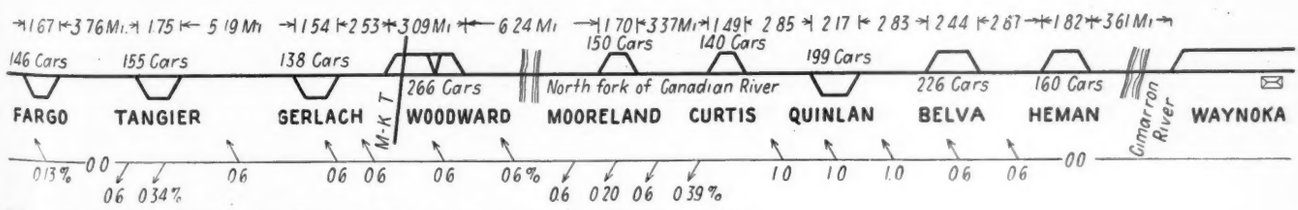
New No. 20 turnouts with 30-ft. points were installed at the ends of the sidings and the intermediate crossovers, thereby permitting trains to enter and leave at medium speed. Each siding is long enough for an engineer to pull his entire train into the siding at medium speed and then have plenty of track length remaining in which to stop. This operation is possible because the sidings are equipped with track circuits which enter into the control of signal aspects to direct trains to enter as well as to depart from the sidings at medium speed.

Signaling on Sidings

At the middle of each siding there is an automatic signal location with a signal for each direction, as for example signals 4203 and 4204 on the siding at Goodwin, as shown in Fig. 2. Normally the eastward leave-siding signal 56RB displays the Stop aspect, red, and the eastward intermediate automatic signal 4204 on the siding displays the Approach aspect, yellow. When the dispatcher sends out a control for an eastbound train to enter the siding, switch 51 is reversed and eastward signal 52R is controlled to display the Medium-Clear aspect, red-over-green, and distant signal 4232 displays the Advance aspect, yellow-over-yellow, indication "Proceed: Approach next signal at medium speed." Accordingly the engineman brings his train up to and through the turnout at medium speed, and pulls to a stop short of leave-siding signal 56RB, with the rear of his train east of signal 4204, which then displays the red aspect.

Under these circumstances, if the dispatcher wants to run another eastbound train into the siding he sends out a control that places switch 51 in the reverse position, and signal 52R is controlled to display the Medium-Approach aspect, red-over-flashing-yellow, which indicates "Proceed at medium speed prepared to stop at next signal," which in this instance is signal 4204, which is displaying the red aspect. Accordingly, an engineman enters the siding at medium speed prepared to stop his train short of signal 4204.

As a general rule a block extends from the signals at one switch of a siding to the signals at its other switch as, for example, from signal 56L to



with centralized traffic control between Canadian, Tex., and Waynoka, Okla.

signal 52L at Goodwin (Fig. 2). At some locations there are curves and high banks which reduce the range over which the engineman of an approaching train can see a signal. For example, if an eastbound train is entering the siding at Glazier, as shown in Fig. 3, for a meet with a westbound train, the latter gets an Approach aspect on signal 28L at the east end and then proceeds at reduced speed on the main track prepared to stop at signal 24LA at the west end. When the eastbound train gets in on the siding the dispatcher clears signal 24LA for the westbound train, but if that train has not proceeded far enough for the engineer to see that signal on account of the curve, he cannot immediately increase his speed.

To save train time in such an instance, an additional signal, 4441, as shown in Fig. 3, was installed at a location where it can be seen on the tangent track as the westbound train approaches. Accordingly, as soon as the aspect on this signal 4441 changes from yellow to green, an engineman knows that the other train is in the clear, the switch has been placed normal and signal 24LA has been cleared for him so that he can at once accelerate his train. In some instances this saves several minutes or perhaps also a stop for the westbound train, and, furthermore, by getting the rear of this train past the east end of the siding more promptly, the dispatcher can reverse that switch and clear the signal for the eastbound train on the siding to depart, thus keeping it rolling without a stop. Of interest is the fact that this arrangement operates quite often exactly as planned. The controls are such that, with the main track unoccupied, signal 28L cannot display an aspect better than that on signal 4441. Therefore, as applying to aspects less restrictive than green, the block is from signal 24LA back to signal 28L. Accordingly, the additional signal 4441 does not introduce a short block, with respect to braking distance for stopping trains.

The C.T.C. machine in the dispatcher's office at Amarillo has a center panel 5 ft. long and at each side there are two 2.5-ft. panels set at angles in a "U" shape. The total length of the five panels is 15 ft. The illuminated track diagram on the machine has lamps in the lines representing tracks which are lighted to indicate track occupancy of all sections of main track and the sidings. Also, traffic-direction indicators show the direction in which traffic is lined up on the single track between sidings. Thus, the track-occupancy lamps report the locations of trains, and the traffic indicators show the direction in which they are moving.

The C.T.C. machine is equipped with an automatic graphic train recorder which indicates when trains enter and leave the OS track circuits at siding switches, and a new feature is that the clearing of the C.T.C. signals at each end of every siding is also recorded by the pen which provides the OS. The recorder pens are three-position and are normally on center. Clearing a signal in either direction at the end of a siding deflects the pen to the left if the switch is normal, or to the right if the switch is reversed. When a train occupies the OS section, the pen travels to the other extreme position. Thus a clear signal, an OS time, and the position of a switch for the train movement are automatically recorded graphically on the record sheet.

The track changes and centralized traffic control on this project were planned and constructed by the forces of the Atchison, Topeka & Santa Fe, the major items of the signaling equipment being furnished by the Union Switch & Signal Co.

Commissioner Patterson Calls for Fast, Safe, Efficient Roads

INTERSTATE Commerce Commissioner William J. Patterson this week set out for delegates to the thirty-fifth convention of the Brotherhood of Locomotive Firemen & Enginemen the objective of making the nation's railroads "the fastest, the most efficient, and the safest of any in the world." The commissioner spoke at the July 22 session of the convention which is being held at San Francisco, Calif.

"These aims and purposes," he said, "must be constantly kept before all employees and officials of the railroads. This requires a high degree of cooperative action between the railroads, their employees, and the Interstate Commerce Commission. Every employee should be taught to do his part to bring this about. It has been my experience that when it comes to promoting safety on the railroads, the attitudes and sympathies of the officers are reflected right down through the ranks of employees, and that is equally true with respect to labor organizations. The attitude of the officers is likewise reflected down through the membership."

The foregoing was preceded in Mr. Patterson's address by his reference to the "increased number of accidents" in recent years, which he attributed in large part to the "accumulated strain" from the "unprecedented volume of traffic" that left "much equipment and roadway impaired," and to "overworked and inexperienced employees." He went on to say that "the emergency is passed and the time for remedial action to eliminate mounting casualties and losses from these causes is now at hand."

I. C. C. Has Been Active

Meanwhile, the commissioner had recalled how the brotherhood and the commission "have worked cooperatively with respect to safety matters through the years." The brotherhood, he said, was among the group which advocated enactment of the Safety Appliance law, Hours of Service law, Accident Investigation Act, Ashpan law, Locomotive Inspection law, and Signal Inspection law. "We feel that these laws have been administered in such a way as to make the railroads much safer on which to ride and work then they were prior to their enactment," the commissioner added. He proceeded to tell the delegates of the "important steps that have been taken to improve safety" since the brotherhood's previous convention in 1941.

In that connection Mr. Patterson reported first that the commission's power-reverse-gear and stoker orders, which had not been fully complied with at that time, "have now been satisfied." With respect to the order requiring installation of improved air brakes on freight cars, he noted that it is now scheduled to become fully effective January 1, 1949. If an extension becomes necessary, Mr. Patterson added, "it will be because the manufacturers have failed to deliver the equipment. The railroads are absorbing all the equipment they can get."

The commissioner next listed the January 16, 1946, order requiring (1) an emergency brake valve to be placed in the cab of the locomotive or on the front of the tender, to be used when the regular engineer's valve is not accessible to the engineer or fireman, (2) a device whereby the height or quantity of water in the tender feed water tank may be ascertained from the cab or tender deck of the locomotive, and (3) an auxiliary steam or air supply to be used in operating power reverse gears

when there is failure of the normal air supply. This order is to become fully effective by June 1, 1948, and Mr. Patterson said "there is no indication that the installations will not be completed by that time."

The most recent commission action discussed by the commissioner was the order requiring railroads to install manual or automatic block signals on lines where freight trains are operated at 50 m.p.h. or more or passenger trains at 60 m.p.h. or more, and also to install train-stop or train-control or cab-signal systems on lines where any train is operated at 80 m.p.h. or more. The investigation which resulted in this order was undertaken by the commission because, as Mr. Patterson put it, "the occurrence of disastrous accidents in recent years, many of which resulted in considerable loss of life and injuries to passengers and employees, raised a serious question as to whether the means employed to promote safety have kept pace with the needs of modern railroad operation, and particularly with the increased hazards attending the operation of high-speed trains."

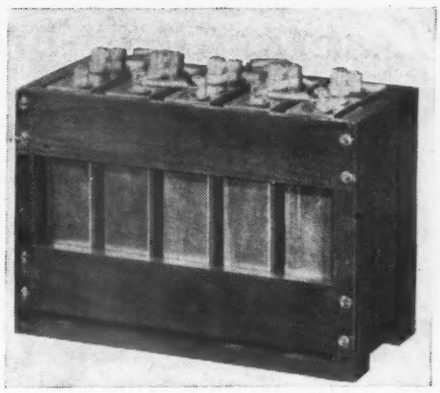
Mr. Patterson also referred to that recommendation of the commission's latest annual report which asked that section 25 of the Interstate Commerce Act be amended to give the commission authority to require any carrier "to establish and maintain rules, regulations, and practices with respect to the operation of trains intended to promote safety of railroad operation." Noting that a bill to carry out the recommendation has been introduced in the House, Mr. Patterson said that its enactment "would enable the commission to cure unsafe conditions which they are now without power to correct."

He added, for example, that it would "enable us to prohibit the operation of trains at unsafe speeds, or the operation of passenger trains with cars of radically different standards of construction intermingled."

With further reference to the increased train speeds of recent years, and the necessity for varied speed limits, Mr. Patterson said the speedometer or speed recorder "has become a safety device of no mean importance." He conceded that locomotive crews "developed great skill in their judgment of speed when locomotives were regularly assigned"; but "now that Diesels are quite generally being introduced and locomotives pooled, in the absence of a speedometer, the crews must necessarily depend entirely upon judgment, which is liable to err at times because of various circumstances, such as different riding characteristics of various locomotives, the vagaries of weather including fog and blinding rain or snow, and the presence or absence of the distinctive exhaust noise of the reciprocating steam locomotive." Thus the commissioner looks forward "to the time when all road locomotives, irrespective of the propelling power used, will be equipped with properly maintained speedometers, preferably combined with speed recording mechanism."

Cadmium-Nickel Storage Battery

Baker & Co., Newark 5, N. J., refiner of precious metals, has announced a cadmium nickel alkaline storage battery. Used in Europe for the past twenty years, the cadmium battery has been developed by Baker technicians to fit the needs of a wide variety of industries, including railway applications. The manufacturer states that the battery accepts high or low charge rates without finish rate limitations; that it has excellent capacities at low electrolyte temperatures with no danger of damage due to freezing; and that it does not produce fumes which will corrode steel or wood. It has a small spread between its charge and discharge voltages and is suitable for "floating" service applications. The battery is sturdily constructed to withstand mechanical abuses. The active material is held firmly in perforated steel pockets.

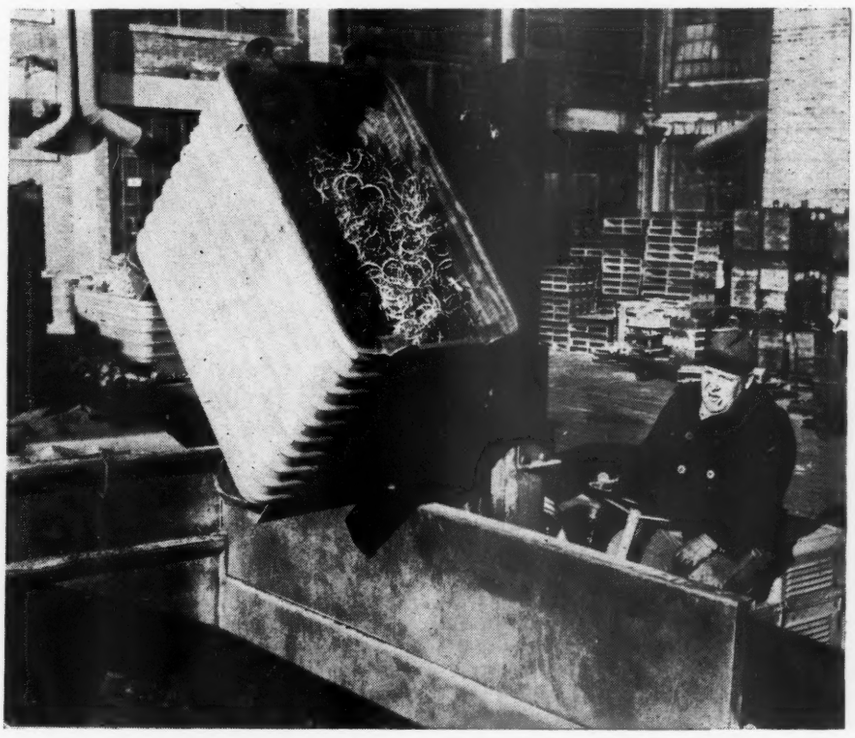


A tray of Baker cadmium-nickel storage batteries suited to railroad service

Rotating Attachment for Fork Lift Truck

Tote boxes filled with scrap, refuse and many similar lift-truck loads for dumping can now be unloaded directly with no intermediate handling. This is made possible by a device recently developed by the Clark Trucktractor Division of Clark Equipment Company, Battle Creek, Mich., which rotates the truck's entire fork assembly. The mechanism is adaptable to fixed or adjustable forks, and other special attachments.

Savings of time and manpower claimed for the device are accomplished by the elimination of manual operations.



New Clark device rotates the entire fork assembly. Here, a load of stampings are being emptied into a truck

Test Installation of Vapor Car's New Rador Heating System

Rador, the war-developed heating-modulation system developed by the Vapor Car Heating Company, Chicago, is now getting its first peacetime use in a test installation on the Chesapeake & Ohio. The new Rador control system is said to do for temperature what radar accomplishes in detection. A number of especially designed thermostats, each with its own search area, are constantly on guard for temperature deviations. This thermostatic search, upon encountering such variation from the desired temperature, automatically alerts the heating equipment and corrects the condition in a zoned reaction. The result is maximum passenger comfort at all times.

The key of the C. & O. installation is a special control panel which automatically determines whether heating, ventilation, or cooling is to be used in establishing the desired temperature.

Each car is horizontally zoned to recognize in temperature control such factors as train speed, wind velocity, car insulation, sun load and number of passengers. Vertical zoning establishes the relationship between overhead and floor heat so as to insure proper balance for all heat sources.

Distribution of required heat is achieved primarily through panel radiation located at the sides of the car. The hot air rises through a duct from the side wall, with partial discharge occurring at the window sill. This supplies a thin heat veil over the cold window glasses to offset the chill air normally encountered at that point. The remainder of the hot air passes out through the continuous duct making up the entire side-wall panel of the car. The purpose of the panel is to offset radiation away from the body towards cold side walls and windows. Such radiant heating has already been successfully tested on the Illinois Central.

Schematic diagram of the Rador heating system, designed by the Vapor Car Heating Company and now being tested on C. & O. passenger car—(1) Warm air outlets; (2) thermostats to control unit fin; (3) heat deflector; (4) unit fin radiation; (5) thermostat to control radiation in floor; (6) radiation to warm floor

Approximately 20 to 25 per cent of the side-wall heat is used by the radiant panel, the balance being discharged at the floor line to mix with car air by natural circulation. This prevents drafts, insures warmth at floor level, and provides vertical even temperature distribution. This radiated temperature is controlled by the Rador thermostats located throughout the car, which automatically adjust the heating equipment through zone control and tend to prevent either overheating or underheating.

The core of the heating equipment is a finned tube over an inner steam fed pipe. Steam is permitted to enter this inner pipe from the control valve at one end and is then discharged at the far end into the finned tube for radiation. In this way, heat is delivered to the cold section of the car first. As the steam comes back to the control valve through this finned tube, it condenses, the condensate filling the space between the steam feed pipe and the finned tube and converting the entire unit into a heat-exchange medium.

In operation, steam is intermittently "jetted" through the control valve of the heating unit in a cycle determined by the Rador thermostats. Variations in the length of time for the "on" cycles are regulated to establish the correct heat exchange value for meeting temperature requirements.

Immediate Response

Anticipating all factors involving temperature comfort, Rador control is designed to adjust the output of the heating units immediately to varying requirements without any intermediate operations. Operated electrically, the control valve falls into the "open" position in the event of electrical failure, to permit manual adjustment where necessary.

Novel features incorporated in the Rador system provide for warm floors by means of heating coils placed below the floor, and vestibule heating which until now has never been done effectively. Because of its zoning provisions, Rador also permits temperature variations in parlors, lounges and lavoratories when desired. It has been found, for example, that women prefer their lounges slightly warmer than do men, which is easily done with Rador.

Because the system uses steam only in the amounts needed, a saving of over 20 per cent in the steam usually expended is anticipated. Economy diaphragms avoid steam blows under the cars and also prevent the accumulation of ice on running gear and equipment.

While the Rador system of heating modulation is applicable to various installations, initial efforts will be confined to meeting the needs of the railroads.

GENERAL NEWS

More Record Loadings Predicted by Kendall

C.S.D. chairman renews plea for railroad-shipper-consignee cooperation

Continuance of "record breaking" carloadings was predicted this week by Warren C. Kendall, chairman of the Car Service Division, Association of American Railroads, as he reported in his latest monthly review of the "National Transportation Situation" on the "outstanding" movement of grain, expected coal loadings in excess of "any prior tonnage" and indications that industry generally "will reach new heights of production."

"The composite transportation picture shows clearly the necessity for maximum handling of all types of freight cars by carriers, shippers and consignees," Mr. Kendall commented. "In the month of June, there was much evidence of such efficiency . . . including a reduction by the railroads of the average turn-around time per car and a reduction by the receivers of the percentage of car detention. To maintain these high standards of car loading and use, each one of us must continue the cooperative effort which has heretofore been so helpful."

Eighteen-Year Record—According to Mr. Kendall, grain and grain products loaded in the week ended July 12 totaled 71,093 cars, a record not approached since August 3, 1929, when 75,062 cars were loaded and when the box car ownership was 321,000 cars greater. He said that by assuming that the bulk of the current loading was wheat and applying the average tons per car for 1946 as compared with 1929, there were more tons loaded in the week ended July 12 than in the 1929 week. Loading of grain by roads serving Kansas, Oklahoma and Texas during the first 10 days of July was reported as being 48 per cent greater than the corresponding 1946 period, Mr. Kendall noted, adding that the daily 1947 average in that period was 3,877 carloads, as compared with 2,618 in 1946.

There had been an unprecedented degree of cooperation by the grain trade in keeping offices open on Saturdays and Sundays for the inspection and handling of grain," Mr. Kendall observed. "This work included the arrival and inspection of 1,318 cars of wheat over the weekend of July 12-13 and the 'ordering' of 436 cars on Sunday, the 13th, which otherwise could not have been 'ordered' and moved before the close of business Monday."

With respect to the open top car situation, Mr. Kendall said that, in view of the settlement of labor difficulties involving coal miners and the "heavy backlog" of orders requiring peak activity in steel and other major industries, it is apparent that demands for open top cars will be "very heavy" for the balance of 1947 and "possibly heavier than ever before." "The railroads must intensify their efforts to eliminate all avoidable delays in car handling," he continued. "Shippers and receivers likewise have a job to do in their own interest by releasing cars as promptly as possible in accordance with objectives of the Car Efficiency Committees. A program of releasing all cars within 24 hours of arrival, and also loading in accordance with Car Service rules, thus confining equipment to normal channels, will materially help the railroads to provide the fullest practical car supply to meet our transportation needs."

Fewer Cars—Turning to box cars, the requirements for which he said will be further intensified in early fall, Mr. Kendall reported 9,842,794 such cars were loaded during the first 27 weeks of 1947, an increase of 0.8 per cent over the corresponding 1946 period, and that the ownership of serviceable box cars totaled 696,047 as of June 15, a decrease of 5,130 compared with June 15, 1946, and 21,832 less than on June 15, 1945. "The Car Service Division will continue to expend all practical efforts to make the most equitable allocation of the available supply," he said, adding that the Eastern-Southern and non-grain originating roads in the West are delivering approximately 1,600 empty box cars to the "granger lines" in the western territory.

After noting that the loading of stock, ventilated box and refrigerator cars also continues to be heavy, Mr. Kendall, discussing the automobile car situation, said that although roads owning automobile cars have made "substantial reduction" in the number of specially equipped cars made available to the automotive industry and returned them to general loading service, they still have been able to satisfactorily handle the requirements of the automobile and parts industry.

Another highlight in Mr. Kendall's report is the assumption that henceforth the number of new freight cars installed each month will exceed retirements. "Records of the American Railway Car Institute, which include equipment ordered by all railroads and all private car lines, show that during . . . June orders were placed for 11,585 new freight cars," he said. "Present prospects are that the losing trend of recent months during which more cars have been retired than there were new cars installed will be checked during . . . July."

(Continued on page 89)

Erie Opens Akron Passenger Station

Woodruff tells taxpayers city airport is their liability, new station their asset

With the cutting of a ribbon stretched across the doorway, a young Akron (Ohio) lady, chosen "Miss Erie" for the occasion, on July 16 officially opened the Erie's new passenger station in the "Rubber City," The formal dedication was held at the station following an Erie luncheon at the Mayflower hotel, attended by 250 citizens of Akron, officers of the railroad and guests. Noel Michell, president of the Chamber of Commerce, was toastmaster. Russell Baer, chairman of the depot committee, introduced Robert E. Woodruff, president of the Erie, who described briefly the historical background of the Erie's passenger facilities at Akron and the developments which led the road to withdraw as a tenant of the union station and construct its own facility.

Mr. Woodruff stated that this decision was based on the economic advantage of operating an independent station and the fact that the Erie could establish itself "as a greater competitive factor and provide better service for the area." He went on to point out that the new station "was built on Erie land—with Erie money—and the Erie will pay increased taxes to your municipality because of its having been built."

Contrasting this procedure with the building of the city's airport, Mr. Woodruff said: "Some years ago you wanted an airport and you got the federal government to contribute a part of the cost. The city of Akron spent around $4 million of the taxpayers' money. The airport is used by four airlines but already it is not suitable for their use and they want to move elsewhere. They are free to do this because they have no money of their own invested in it. The facilities have not been a tax burden on them because they pay no taxes. These air lines pay only a nominal amount for the use of the airport. It is my understanding that the city gets only about 40 per cent of its operating cost from the air lines. The rest of the expense comes out of the pockets of the taxpayers, including the railroads." In contrast, the Erie president pointed out, "the railroads in Akron last year paid a total of $193,000 to the city of Akron, part of which is used for maintaining your schools, your city government *and your airport.*"

Mr. Woodruff asserted that it was his purpose "to do everything humanly possible in the interest of better passenger service for our friends and patrons in Akron

Railroads Star in Two Movies

By the almost simultaneous release of the products of two major producers of motion picture "shorts," a nationwide audience is being reminded of the railroads' place in the national economy, the service they perform, and some of the difficulties that restrict their improvement of that service. One of the new documentary films dealing with the railroad industry is the current March of Time release, "New Trains for Old?" The other, released by RKO Pathe, Inc., as a part of its "This Is America" series, is entitled "Whistle in the Night."

Both pictures give a well-balanced and objective outline of the work the railroads do, both in running trains and behind the scenes, and throw the spotlight on the significance of the industry in the nation's social and commercial life. Scenic views, action sequences in shops and freighthouses, terminals and yards, and impressive "before and after" scenes that show recent improvements in passenger equipment—these are among the means by which the story is told.

Both pictures make the point that the railroads have been handicapped by rising costs and lagging rates in placing new developments in service. The opportunities for more improvements in this direction are emphasized in the March of Time production by Robert R. Young, chairman of the Chesapeake & Ohio, who outlines some of the ideas he has recently advocated in several forums, with which comments the responses of William T. Faricy, president of the Association of American Railroads, are appropriately dovetailed, with the result that the audience is impressed both with the railroads' opportunities to make progress and with the advances they are making in taking advantage of those opportunities.

without any increased cost to the taxpayers or to the users of the service. These facilities are being provided in the American tradition of free enterprise in the true sense of the word. They have been bought and paid for by private capital without the aid of any subsidy whatever."

The new station is conveniently located at South Broadway and Exchange streets, close to the heart of the business district. The waiting room presents an unusually clean and neat appearance. The walls are finished with decorative glass. The seats are leather-upholstered chairs and couches. From the waiting room a bridge leads over the tracks; it is connected with an island platform by a stairway and reversible escalator. A second platform for parked sleepers is provided, and, incident to the opening of the new facilities, an Akron-Chicago sleeping car was established.

As quickly as new equipment now on order is delivered, all Erie passenger trains serving Akron will be operated with Diesel-electric locomotives. New coaches, dining cars and sleepers will replace existing cars on the trains. A coach and a dining car, recently rebuilt and modernized at the road's Susquehanna shops, along with a modern 4-bedroom—6 roomette—6 section sleeping car and a Diesel freight locomotive, were on exhibition at the station in connection with the opening ceremonies.

New "Railway Accounting Rules" Book Being Issued

The next issue of the A.A.R. Accounting Division's "Railway Accounting Rules," to be known as the September 1, 1947, edition, is expected to be ready for distribution "sometime during the middle or latter part of August," according to a recent announcement from Division Secretary E. R. Ford. The new or amended rules and forms included in the edition will become effective September 1.

The announcement stated further that, pursuant to the usual practice, one copy will be furnished without charge to each railway accounting officer who is a member of the division, and additional copies may be obtained by member roads and their employees for 75 cents each when ordered in quantities of 10 or more and $1 when ordered in quantities of less than 10. Prices to non-member roads and their employees are double the foregoing. Orders should be placed with Mr. Ford, Transportation Building, Washington 6, D. C., with remittances made payable to A.A.R.

A.A.R. Officers Urge Adoption of Combined Shipping Form

Three vice-presidents of the Association of American Railroads are urging the association's member roads to adopt the revised five-part combined shipping form which has been developed by a joint traffic-operating-accounting committee. The form consists of a bill of lading, shipping order, freight waybill, shipping order copy and memorandum harmonized so as to prepare all parts at one writing.

Samples of the revised form were sent recently to chief accounting, operating, and traffic officers of A.A.R. member roads with an accompanying circular signed by A.A.R. Vice-Presidents E. H. Bunnell, J. H. Aydelott, and A. F. Cleveland. The railroad officers also received copies of the pamphlet issued by the A.A.R. in September, 1944, to set forth the advantages of the combined form. The revised forms will replace those appearing on pages 12-21 of that pamphlet. As pointed out in the circular, the revised forms contain new block spacing for shippers' special instructions, shippers' invoice numbers and customers' numbers, c.o.d. information, and pick-up and delivery service.

"The advantages of this unit form," Messrs. Bunnell, Aydelott and Cleveland said, "are so apparent to the United States government that its use on government traffic which was inaugurated early in 1943 will be continued. We urge that member lines adopt this five-part unit form for both straight and order shipments and that this be the form furnished by the railroads to their agents and to shippers."

The circular also quoted from a report of the Railroad Committee for the study of Transportation (R. V. Fletcher, chairman) which had this to say: "In the cases where carriers furnish the bill of lading forms to their patrons, or where forms are printed by the shippers which do not tie in with their sales, accounting and other practices, there appears to be ample opportunity, through diligent effort upon the part of individual carriers, to obtain adoption generally of the harmonized form. In the cases of shippers who provide their own bills of lading correlated with other accounting documents, it is recommended that the individual carriers use their good offices with the shippers to work out some equitable arrangement for inclusion of the waybill in the shipper's combination form."

Establish Installment Plans for Ticket Purchases

Two plans whereby tickets and other services incident to travel may be obtained on credit and paid for in monthly installments have been arranged. One plan, which involves some 59 major railroads, will become effective on September 1, H. W. Siddall, chairman of the Railroad Passenger Interterritorial committee, has announced. The other plan was placed in effect by the Texas & Pacific on July 18 and is a separate arrangement.

Mr. Siddall explained that the joint installment plan will require only the signature of the individual for credit and no down payment will be necessary. Local banks cooperating in the plan will pass upon the eligibility of an applicant and advance to the railroad the money requested by the traveler. The traveler will make payments, with interest, tothe loaning bank. Application blanks will be available in all ticket offices of the cooperating carriers and will be acted upon within 24 hours.

This plan is in no way connected with the travel card plan of the Rail Travel Credit Agency, which is designed chiefly for convenience rather than for installment buying. It replaces a similar service offered through the Travelers' Credit Corporation in 1940, which was discontinued during the war.

The T. & P. plan differs from the national plan in that the railroad itself is the loaning agency. The T. & P. plan stipulates, in substance: (1) Any person planning a round-trip journey—for business or pleasure—where the first-class fare is $50 or more, exclusive of federal tax, may make application for installment buying of his transportation at any of the road's passenger agencies where the arrangement is in effect.

(2) After approval of the applicant's credit standing, a ticket is issued and the customer makes a down payment of not less than 25 per cent of the ticket's total cost.

(3) The passenger signs a promissory note for the balance, which is payable in consecutive monthly installments for six months. A service charge of two per cent on the unpaid balance is made at the time

the transaction is closed, which amount can be spread over a six-month period.

To use this credit plan, patrons must originate their trip at one of eight designated T. & P. terminals, and, to reach off-line destinations, must buy transportation via certain specified points. The railroad's installment plan has no connection with its own credit card operations nor those of the Rail Travel Credit Agency, of which the T. & P. is one of 45 participating members.

Newcomen Society to Honor Monon Centennial

For its 1947 national pilgrimage, the American Newcomen Society will mark the centennial anniversary of the Chicago, Indianapolis & Louisville at French Lick Springs, Ind., on August 6 and 7, under the auspices of the Indiana Committee of the Newcomen Society. Events during the pilgrimage will include special Newcomen luncheons and a dinner. In the course of the affair, honor will be paid to the Monon's president, John W. Barriger, who was the first Newcomen lecturer before Princeton University.

Need Close Tie Between Agents, Claim Prevention Officers

Railroad freight claim and prevention officers should, whenever possible, attend meetings of the Freight Agents Association to maintain the interest of the station men in loss and damage prevention, according to a letter directed to freight claim and prevention officers by the National Freight Loss and Damage Prevention Committee. The latter—an arm of the Freight Claim Division of the Association of American Railroads, composed of freight claim agents and freight claim prevention officers of 14 railroads and the Railway Express Agency—said that such action "will result in a valuable exchange of information," and will show the agents that "the freight claim agents and prevention officers are behind their efforts in controlling loss and damage."

In a report on perishable freight delay, the committee said that payments arising from delays had increased 182 per cent during the five year period, 1942-1946, as compared with the 1937-1941 period. Practically all of this increase occurred during 1945 and 1946, the report stated. The great part of this expense, according to the committee, can be stopped by "paying particular attention to refrigerator traffic."

Monon Plans Four-Day Fete for Its Centennial

As a feature of the centennial now being celebrated along its lines throughout July, the Chicago, Indianapolis & Louisville will operate the "William Mason"—said to be the oldest original equipment in the country which can still run under its own power—over its Chicago-Louisville, Ky., line during the period, July 27 to July 30, inclusive. Also during these four days, celebrations will be staged at New Albany, Ind., birthplace of the New Albany & Salem, forerunner of the Monon. They will include parades, fireworks, band competitions, model railroad displays and other special activities.

Joining the "William Mason" train in New Albany on July 30, will be a replica of "The Best Friend of Charleston," loaned by the Southern. It will bring Governor Simeon Willis of Kentucky and other dignitaries to the Monon event. The "William Mason," loaned for the occasion by the Baltimore & Ohio, will arrive in New Albany at 2 p.m. to start the final day's activities at the old Monon station there. The first of the road's new Diesel-powered "Hoosiers" will enter New Albany at 3 p.m., that day, carrying Governor Ralph Gates of Indiana, Governor Dwight H. Green of Illinois and others.

President John W. Barriger and other officers of the Monon will accompany the "William Mason" during its four-day run, stopping at key points along the line. Entertainers making the trip will stage tabloid shows at each of its stops. The train will operate from Hammond, Ind., to LaFayette on July 27; from LaFayette to Bloomington on the 28th; from Bloomington to Salem on the 29th; and from Salem to New Albany on the 30th, stopping at most intermediate points.

A number of Monon "birthday parties" have been held in communities along the railroad's lines. On July 11, at Monticello, Ind., one of eight new musical compositions written by the railroad's centennial director, John A. McGee, entitled "Monticello Moon," was introduced to the public.

More Record Loadings Predicted

(*Continued from page 87*)

At the same time, Mr. Kendall disclosed that the number of serviceable freight cars as of July 1 amounted to 1,656,939, a decrease of 726 under the June 1 total.

Detention Reduced—Among other things, Mr. Kendall also reported that the average turn-around time for June was 13.2 days, as compared with 13.4 days in May and 14.60 days in April; and, for the six months ended with June, the percentage of detention of freight cars was 16.5, as compared with 18.9 per cent for the first six months of 1946 and 15.48 per cent for June of this year.

With respect to military transportation, Mr. Kendall said that the ordinary freight shipments of the War Department do not create any "particular problems" at present, adding that phosphate rock and ammonium nitrate are the only two commodities moving in volume which create a daily demand for freight equipment.

Discussing a July 11 announcement by the Mexican government with respect to its adoption of restrictive measures in connection with the importation of goods from the U. S.—a temporary measure designed to correct the current deficit in Mexico's balance of international payments—Mr. Kendall said that so far as shipments routed via the National Railways of Mexico are concerned, the C. S. D. will in the administration of C. S. D. Embargo 400 assure that any necessary import licenses have been obtained before permits are issued. Where shipments are routed into Mexico via lines other than the National and are not covered by the embargo, it will be the responsibility of the United States lines to assure themselves that commodities restricted by the Mexican government are not accepted for transportation.

Equipment on Order

Class I railroads and private car lines had 109,556 new freight cars on order on July 1, as compared with 101,980 on June 1, according to the Association of American Railroads. Of the former total, Class I roads and railroad-owned privately controlled refrigerator companies had 102,634 new freight cars on order, compared with 98,630 on June 1, and 39,437 on July 1, 1946.

Cars on order by Class I roads on July 1 included 37,799 hopper cars, of which 2,425 were covered hoppers; 6,697 gondolas, 1,093 flat, 9,725 refrigerator, 50 stock, 318 miscellaneous freight cars and 46,952 box cars, including 43,118 plain and ventilated and 3,834 automobile box cars. Of the total number of new freight cars which Class I roads had on order on July 1, 24,484 will be built in railroad shops and 78,150 in outside shops.

The Class I roads had 794 locomotives on order on July 1, compared with 615 on the same day in 1946. The former total included 24 steam, five electric and 765 Diesel-electric locomotives, compared with 86 steam, six electric and 523 Diesel-electrics a year ago.

Class I roads installed 20,735 new freight cars in service in the first half of 1947, of which 5,249 were installed in June. New freight cars put in service in the first six months of 1946 totaled 18,256. Those installed in the 1947 period included 5,498 hopper cars, of which 870 were covered hoppers; 1,860 gondolas, 1,276 refrigerator, 454 flat, 500 stock, 100 miscellaneous freight cars and 11,047 box cars, including 8,614 plain and ventilated and 2,433 automobile box cars.

The Class I roads also put 418 new locomotives in service in the first six months of 1947, of which 63 were steam, one electric and 354 Diesel-electric. New locomotives installed in the same period last year totaled 180, of which 56 were steam and 124 Diesel-electric.

The Class I roads retired 25,918 freight cars in 1947, of which number 5,356 were retired in June. As of July 1, 1946, there were 29,021 cars retired.

Young Urges Faster Freight, Tourist Cruise Trains

Commenting on the current freight car shortage in a radio interview July 16, broadcast on the American Broadcasting Company's Woman of Tomorrow program, Robert R. Young, chairman of the Chesapeake & Ohio, declared that it is not a result of war conditions but of the decline during the past 20 years of about one-fourth in the number of cars available. "In no single year after 1930 did the railroads buy as many new cars as were scrapped in each year," Mr. Young said.

In the face of the record-breaking freight traffic being offered the railroads, he continued, "freight train speeds west of the Mississippi river average only 15 m.p.h. That means fruit and vegetables moving

out of California cannot reach the Chicago markets until the seventh morning, and New York the ninth morning. Is it any wonder that our melons, strawberries, etc., give us effete easterners the colic because they have to be picked so green?" Mr. Young expressed the opinion that freight train speeds can be speeded up, "in time perhaps to equal passenger train speeds. . . . One would need only to speed up freight train schedules all over the country 10 or 15 per cent to completely eliminate the box car shortages which we are currently reading about, and which are causing so much loss to the American farmer."

The C. & O. chairman also commented on the possibilities for expanding railroad passenger business through the improvement of equipment and appeals to youthful travelers in the way of special "adventure" trips at low cost. The same thing can be done for adults, he suggested, and costs can be held to the low basis which popular trains, for example the Southern Pacific's "Daylights," have proved profitable.

"Among other things I hope to see done by the railroads in the near future," said Mr. Young in this connection, "is the establishment of travel trains to take the place of the cruise ship. . . . I would like to see a specially appointed fleet of cruise trains operate the year 'round to the national parks, the Grand Canyon, Yomesite, the Golden Gate, Niagara Falls, Washington, Williamsburg, New Orleans—the choice is unlimited. At one season they could operate in one direction—at other seasons in other directions. . . . What the railroads need is to give the people more worthwhile services and then advertise them. The people's travel urge is greater than ever. They have more leisure time, more travel time than they had 25 or even 10 years ago. People have more money to travel. And it's time the railroads started doing something about it."

Missouri Pacific Hospital at St. Louis Enlarged

A modern, five-floor annex to the 325-bed hospital of the Missouri Pacific Hospital Association at St. Louis, Mo., is the latest improvement in its medical facilities available at minimum costs to 45,000 railroad employees. The $250,000 addition features extensive use of tile in its walls, contributing much to the attractive, sanitary appearance of the interior. The annex offers daily service by specialists in the following clinics: dental, eye, ear, nose and throat, physical medicine, heart and metabolism.

The association's six-story St. Louis hospital is the largest segment in a chain of medical services extending to 396 separate points and covering 12 states. In addition to M. P. employees, it accommodates employees of the Gulf, Mobile & Ohio, Terminal Railroad Association of St. Louis, Southern, Manufacturers', American Refrigerator Transit Company and all subsidiary lines of the M. P. except its Texas lines. The association—owned, operated and controlled by M. P. employees—is financed by authorized deductions from the payroll of members and from charges to non-member patients.

Benefit Payments Continue to Rise; Hit $16 Million

During May, approximately 225,000 individuals received $16,137,000 in retirement and death benefits—the highest amount ever recorded under the Railroad Retirement Act—according to the "Monthly Review" of the Railroad Retirment Board. These figures, the review stated, are about 20 per cent higher than the corresponding monthly average of 1946, due primarily to the Crosser Law's new monthly death benefits, the larger number of retirements made possible by the new disability provisions and the amounts added to more than 45,000 annuities that had been awarded before the amendments.

Applications for employee annuities reached 3,725 during the month, compared with 4,525 in April. Annuities awarded during May totaled 4,034—the largest figure for any month in almost nine years—at an average monthly rate of $67.02.

Railroad unemployment insurance activities declined by approximately one-fourth from April to May. The number of applications for certificate of benefit rights dropped 27 per cent to 6,563 and unemployment claims declined from 153,838 to 115,697. The board, in its employment operations, reported an increase of placements from 6,638 in April to 7,565 in May, attributing the rise to the seasonal demand for maintenance-of-way laborers. Placements of claimants, however, declined by 784 during the month.

During the 1947-48 benefit year approximately $31,300,000 in sickness benefits will be distributed to men and about $4,700,000 to women, the Review estimated. Four-fifths of the amount to be paid to women will be for illness and injuries and the remainder for maternity, it was calculated.

Operating Revenues in June 13.2 Per Cent Above 1946

From preliminary reports of 84 Class I railroads representing 80.8 per cent of total operating revenues, the Association of American Railroads has estimated that the June gross amounted to $560,081,558, an increase of 13.2 per cent above the $494,698,007 reported for the same 1946 month. Estimated June freight revenues were $445,035,663, compared with $366,322,039, an increase of 21.5 per cent, while estimated passenger revenues were $69,619,530, compared with $88,722,348, a decrease of 21.5 per cent. The estimate for all other revenues was $45,426,365, compared with $39,653,620, an increase of 14.6 per cent.

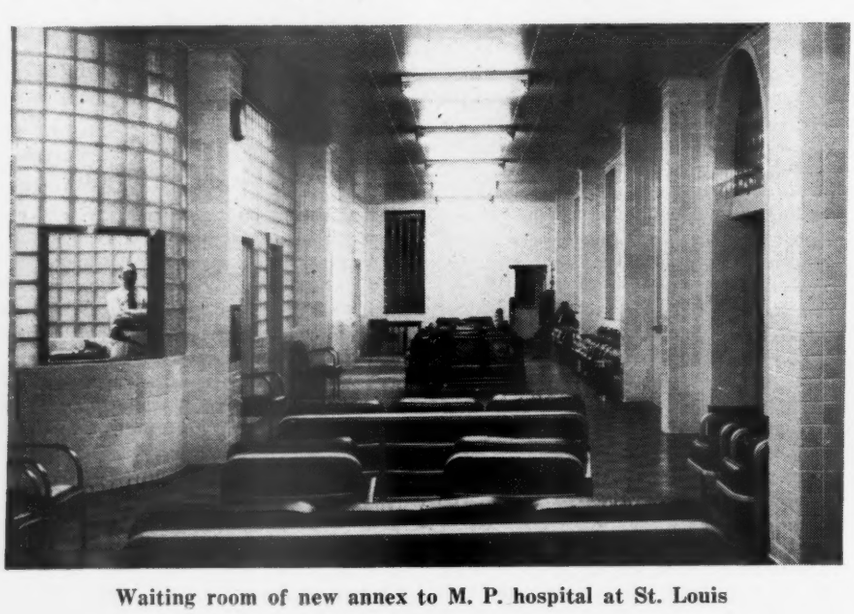
June Ton-Miles

The volume of freight traffic handled by Class I railroads in June was 3½ per cent above the corresponding 1946 month, and amounted to 51,500,000,000 ton-miles, according to a preliminary estimate by the Association of American Railroads.

The table summarizes revenue ton-miles for the first six months of 1947 and 1946:

	1947	1946	Per cent increase
January ..	53,294,374,000	48,225,789,000	10.5
February .	48,485,909,000	45,080,780,000	7.6
March	56,148,921,000	52,393,533.000	7.2
April	50,693,767,000	37,407,551,000	35.5
May ....*a*	56,000,000,000	39,464,673,000	42.0
June ....*b*	51,500,000,000	49,783,762,000	3.5
Total six months..	316,122,971,000	272,356,088,000	16.1

a Revised estimate.
b Preliminary estimate.



Waiting room of new annex to M. P. hospital at St. Louis

C. H. Murray Named Delegate to Stockholm Labor Meeting

C. H. Murray, vice-president of the American Rolling Mill Company, has been appointed by the United States Department of Labor as a delegate representing the iron and steel industry at the International Labor Conference in Stockholm, Sweden, from August 19 to September 21.

Faricy Eulogizes E. A. Smith

Elmer A. Smith, late senior general attorney of the Illinois Central, whose death on July 16 was reported in *Railway Age* of July 19, page 61, was paid tribute last week by William T. Faricy, president of the Association of American Railroads. In his statement Mr. Faricy said.

"Elmer Smith is dead. This noble soul,—unselfish, idealistic, enthusiastic, courageous—has crossed the Great Divide where

time blends with eternity. If it were given to us to see beyond that mystic horizon, probably we should see Elmer carrying whatever burdens were in sight—his neighbors' as well as his own—a song in his heart, his eyes fixed on the stars, finding his ultimate triumph in selfless service to those in need of help.

"Elmer, the most profound legal student of railroad economics of his time, has left his ineradicable mark in the annals of twentieth century railroading. Elmer, the philosopher, the idealist, the musician, the devoted friend, will never be forgotten by those who had the great privilege of knowing him."

Southern Pacific Engineers Stage Brief Strike

A short-lived strike of locomotive engineers on the Southern Pacific lines west of El Paso, the culmination of several years of controversy over certain local working rules and minimum pay provisions, took effect at 6:00 p.m. July 21 and terminated at 12:37 a.m. July 22 after railroad and union officers, ending an all-day conference, agreed upon a settlement involving adoption of most of the rules changes and abandonment of the demand for an increased minimum day's pay.

The dispute was originally referred to a National Railway Labor Panel emergency board in July, 1945. This board recommended denial of the wage increase and ruled variously on the rule changes—which were of a local nature, involving such questions as minimum speeds through tunnels; suitable respirators and smoke deflectors on engines; yard tenders on road engines in yard service; a maximum of 2 helper engines per train; "adequate" washing, changing and writing facilities at terminals; and a maximum age of 56 for the hiring of engineers. The railroad and the brotherhood had not come to complete accord on the settlement, however, and the union went ahead with its strike plans without waiting the usual 60 days' "cooling-off period," contending that the 1945 emergency board's findings had not been complied with.

All shipments of livestock, perishables and explosives were embargoed as of 12:01 a.m. July 21. The embargo was cancelled the following day. Considerable perishable traffic was involved in the brief tie-up, and parallel lines experienced some congestion due to an accumulation of traffic caused by the threat of strike on the S. P. An early recall of the striking engineers enabled a restoration of nearly normal service late in the morning of July 22.

The strike went on despite the appointment by President Truman of an emergency board to investigate the disputes. Members of the board, which was created by an Executive Order issued July 18, are Chairman Grady Lewis of Washington, D. C., Leverett Edwards of Oklahoma City, Okla., attorneys, and Paul A. Dodd, professor of the University of California. The board convened in San Francisco, Calif., on July 23; and P. O. Peterson, general chairman of the B. of L. E. on the S. P., dropped dead as he was making the opening statement of the union's case.

Before the strike was called off, it was denounced in the Senate by Senator Knowland, Republican of California. Speaking at the July 21 session, he called the then-threatened strike "a matter of absolute irresponsibility on the part of the Brotherhood of Locomotive Engineers." He added: "If there are loopholes in the Railway Labor Act which permit this type of irresponsibility, that act should be modified."

Also, Senator Morse, Republican of Oregon, inserted in the Congressional Record telegrams which the Oregon delegation in Congress had sent to President Truman, Chairman Frank P. Douglass of the National Mediation Board and Alvanley Johnston, grand chief engineer of the B. of L. E. The telegrams, as Mr. Morse summarized them "make perfectly clear to the officials of the railroad brotherhood that it is the opinion of the Oregon delegation that there is absolutely no justification whatever for a strike at this time, so long as peaceful procedures are available to the parties to the dispute for the settlement of the dispute."

C. N. R. to Dieselize Prince Edward Island line

The Canadian National has started its program of complete Dieselization on the Prince Edward Island line with these two 44-ton, 380-hp. Alco-G.E. Diesel-electric locomotives, designed for operation in multiple unit. The locomotives were shipped in May from the General Electric locomotive plant at Erie, Pa.

* * *

C. & O. Resumes Encouragement of Employee Recreation

Revival of a health and recreational program for the more than 50,000 employees of the Chesapeake & Ohio has been announced by Robert J. Bowman, president. The program, started in 1923 and discontinued during the depression year of 1931, will be directed by Charles R. Hook, Jr., assistant to the president—personnel. Participation by the company in employee recreational activities will amount to bearing one-half the actual expense of equipment and uniforms in all instances where employees form athletic teams, and to permitting the use of available railroad properties for athletic activities where this does not interfere with railway operations.

Marketing Needs Require Roads to Coordinate Schedules

"Those who contend that compliance with the Sherman anti-trust act requires a helter-skelter, wide-open, competitive speed race of freight trains, shut their eyes to realities. What they actually propose is complete disruption of efficient railroad transportation." Thus are the efforts of the U. S. Department of Justice to force unmitigated competition in freight services and schedules characterized in a statement issued this week in support of the Reed-Bulwinkle bill by Harold M. Sims, director of public relations, Western Association of Railway Executives.

Pointing out that between the Pacific coast and such gateways as St. Louis, Mo., and Chicago, 2,200 combinations of routings are in common use, and that producing areas vary in their nearness to main line routes, Mr. Sims asserted: "Through collaboration by railroads, shippers and their associations, freight train schedules are set up and coordinated in such a way as to afford the growers and shippers the equivalent of one-line transportation service, and in so far as is possible and practical, opportunity to market their production profitably anywhere in the United States."

The Western railways' public relations chief went on to point out that railroad freight train service involves many connections which require that all of the roads, through collaboration, establish definite departure and arrival times at initial, intermediate and final terminals which will coordinate with the schedules of connecting roads.

There are other considerations, according to Mr. Sims. Perishable industries depend upon train schedules which can be relied upon—operating schedules with sufficient elasticity "to make up time" when delays occur. Also, for purposes of diverting perishable cars, the shipper must know the relative location of his shipments, and what connections can be relied upon if he decides to divert his car. Furthermore, in connection with the shipment of perishables, arrival ahead of time is as undesirable as arrival late. Finally, collaboration on freight schedules by the railroads broadens markets by permitting a wide belt of producers to compete on equal transportation terms.

Regarding the Lincoln anti-trust case, Mr. Sims declared: "Certain Department of Justice officials have toured the country

declaiming about the alleged skulduggery of the railroads. Their cant has been taken up by a certain few columnists, radio commentators, politicians and newspapers. In broadcasts, press and speeches a flood of vicious charges against the railroads have been unloosed. As alleged proof that the railroads conspire to abuse their shippers, they tell of a car of perishables here that was deliberately delayed en route, a car some place else that was not forwarded on the next connecting train, or a car that was not delivered immediataely upon arrival. None evinces the slightest concern as to what the growers and shippers need and want and expect of the railroads."

Narrow Gage Dome Car Brings Branch Line Travel Boom

One of the nation's few remaining narrow gage passenger trains now sports a glass-top "Silver Vista" observation car. The Denver & Rio Grande Western built the new car in its company shops and placed it in service on its scenic Silverton-Durango (Colo.) branch on June 22. The glass-top car leaves Durango for the round trip to Silverton every Tuesday, Thursday and Saturday, and on Sunday makes the trip over Cumbres Pass to Alamosa, returning on Monday. Seats are sold in the observation car, coach tickets being honored, and, according to the Rio Grande's system newspaper, "Green Light," capacity loads have been carried since its inauguration.

Illinois Commission Delays Commuter Fare Increase

Plans of six Chicago railroads to increase commutation fares 20 per cent, as reported in *Railway Age* of July 5, page 56, were shelved on July 8 by the Illinois Commerce Commission. The new schedule of fares would have taken effect August 1 had the commission not suspended the new tariffs until November 29, pending the outcome of hearings set for September 9 to determine the "reasonableness" of the advances.

B. & O. Traffic Men Get New Sales Training Course

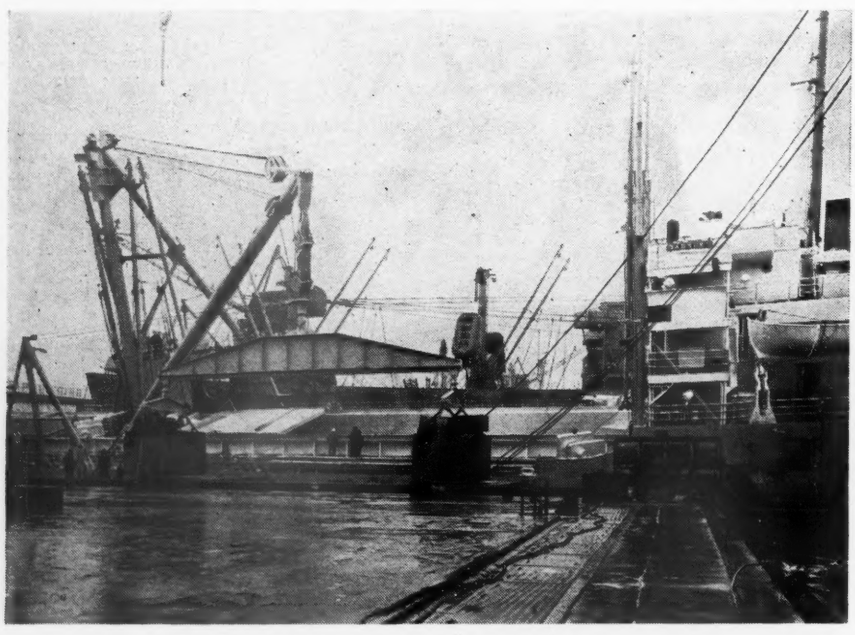
The first of 250 freight traffic representatives of the Baltimore & Ohio on July 28 will begin a tour during which they will study railroad and industrial facilities in St. Louis, Mo., Lousville, Ky., Cincinnati, Ohio, Indianapolis, Ind., Dayton, Ohio, Wheeling, W. Va., Pittsburgh, Pa., Cleveland, Ohio, Rochester, N. Y., and Buffalo. The training tours will last two weeks. Twelve men, in charge of a group leader, will make the trip at one time aboard a special school car. The training program will continue into 1948.

In an earlier training program, which is just being concluded, the same freight representatives made a study of facilities between New York and Chicago, stopping at Toledo, Ohio, Akron, Youngstown, Cumberland, Md., Washington, D. C., Baltimore, Md., and Philadelphia.

"Lack of Offerings" Cause for Barge Line Embargo

A Mississippi Valley Barge Line embargo issued July 15, effective July 21, announces the non-acceptance of carload and l.c.l. freight for movement from, to or via the ports of Cairo, Ill., Evansville, Ind., Helena, Ark., Henderson, Ky., Louisville, Owensboro, Paducah and Vicksburg, Miss. The reason for the embargo was first given as a "lack of offerings and inadequate revenue," but a subsequent amendment changed the basis to "suspension of service."

* * *



A test load of 137½ tons, equivalent to the weight of a locomotive and tender, moving from dock to vessel during the official trial of M. V. "Gadsden," a "locomotive carrier," first of its type under American flag. It was converted at Bethlehem Steel Shipbuilding Division's Baltimore yard, and it has an 88-ft. boom, said to be the biggest ever built in this country

Pennsylvania Assigns Diesels to Extended Freight Runs

Coincident with the assignment of three Electro-Motive 6,000-hp. 4-unit Diesel locomotives to its "LCL-1" and "CG-8" freight trains, the Pennsylvania extended these trains, effective July 16 and 17, to operate through from Jersey City, N. J., to Chicago. Westbound the "LCL-1" departs from Harsimus Cove (Jersey City) at 11:00 p.m. and is scheduled to arrive at 55th street, Chicago, at 3:15 p.m., the third day, making the 908-mi. run in 41 hr. 15 min. Eastbound, train "CG-8" leaves 59th street, Chicago, at 8:30 p.m., and, operating via Columbus, Ohio, is due at Greenville (Jersey City), at 10:45 a.m. the third day, making the run in 37 hr. 15 min.

Freight Car Loadings

Loadings of revenue freight for the week ended July 19 totaled 919,734 cars, the Association of American Railroads announced on July 24. This was an increase of 112,773 cars, or 14.0 per cent, above the previous week, a decrease of 1,762 cars, or 0.2 per cent, below the corresponding week last year, and an increase of 37,086 cars, or 4.2 per cent, above the comparable 1945 week.

Loadings of revenue freight for the week ended July 12 totaled 806,961 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, July 12

District	1947	1946	1945
Eastern	137,656	159,855	154,482
Allegheny	176,686	190,364	197,341
Pocahontas	34,052	69,428	59,302
Southern	114,103	134,262	124,859
Northwestern	136,873	135,906	133,345
Central Western	136,057	136,815	139,985
Southwestern	71,534	68,452	74,229
Total Western Districts	344,464	341,173	347,559
Total All Roads	806,961	895,082	883,543
Commodities:			
Grain and grain products	71,093	59,027	65,645
Livestock	11,402	20,393	13,293
Coal	102,709	189,628	175,150
Coke	12,306	13,393	14,661
Forest products	44,706	45,730	43,502
Ore	85,537	75,859	77,255
Merchandise l.c.l.	109,870	121,167	104,920
Miscellaneous	369,338	369,885	389,117
July 12	806,961	895,082	883,543
July 5	629,204	679,775	726,663
June 28	846,141	879,544	893,947
June 21	901,296	858,423	876,703
June 14	895,292	867,918	873,322
Cumulative total, 28 weeks	23,106,725	20,590,719	22,888,752

In Canada.—Car loadings for the week ended July 12 totaled 78,231 cars as compared to 68,776 cars for the previous week and 70,103 cars for the corresponding week last year according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
July 12, 1947	78,231	31,420
July 13, 1946	70,103	31,468
Cumulative totals for Canada:		
July 12, 1947	2,018,694	1,032,684
July 13, 1946	1,863,221	944,818

With the Government Agencies

Proposes Increased Commutation Fares

I. C. C. examiner suggests new mileage-scale basis to apply in East

Approval by the Interstate Commerce Commission of increased interstate commutation and multiple fares on 14 eastern railroads has been recommended in a proposed report by Examiner Burton Fuller. Except as to the New York, Susquehanna & Western, the examiner did not endorse the increases proposed by the railroads, his recommended scales being designed to remove "disparities" from existing scales in the New York City area and to give more consideration to the five-day work week.

In those connections, Mr. Fuller reported the protests of interested state commissions and representatives of New York and New Jersey commuters whose opposition was based "principally on the fact that the proposals, particularly as to the fares to and from New York City, do not provide for a uniform basis or give adequate consideration to the growing trend toward a five-day work week." The "numerous disparities" in the commutation-fare structure to and from New York "have long been the source of irritation," the examiner also said.

The proposed report embraces three proceedings, the title case being No. 29711, which involves the petition filed jointly by the Susquehanna; New York Central; Pennsylvania; Lehigh Valley; Erie; Long Island; Reading; Pennsylvania - Reading Seashore Lines; Baltimore & Ohio; Chicago South Shore & South Bend; and Boston & Maine. The second proceeding is No. 29678, involving the petition filed earlier by the New Haven; and the third is I. & S. Docket No. 5488, which involves suspended tariffs carrying proposed increases in Central of New Jersey commutation fares and in the joint-line commutation fares that road maintains with the Reading. As Mr. Fuller pointed out, all of the foregoing are among the eastern roads which were recently authorized by the commission to increase their basic fares from 2.2 to 2.5 cents per mile in coaches and from 3.3 to 3.5 cents per mile in Pullmans.

The Susquehanna's proposal, which the examiner would have the commission approve without modification, would increase the price of that road's two types of monthly fares, 46 and 60-trip, by 20 per cent, subject to a maximum increase of $2.50 and a maximum monthly fare $1 per mile. The 14-trip weekly tickets would be increased about 12 per cent, the maximum increase being 65 cents and the maximum fare becoming 28 cents per mile. For the motor coach trip between Susquehanna Transfer and New York, the Susquehanna maintains a supplemental fare of 10 cents in each direction, Examiner Fuller pointed out. He added that, because of this, the road's present and proposed commutation fares are "generally somewhat lower" than those of the other petitioners.

The New Haven proposed a 20 per cent increase in the 60-trip monthly commutation fares which it offers. The N. Y. C., P. R. R. and L. V. proposed flat increases of $2.50, averaging generally 25 per cent on the first two and 11.3 per cent on the L. V. Like the Susquehanna, the Lackawanna and Erie proposed percentage increases subject to specified maxima, which would average about 18.4 per cent and 35 per cent, respectively. The Jersey Central, as the proposed report explained, "proposes a geometric scale so as to temper the increase and even reduce the fares for the long hauls and so that the fares for the middle distances, where the traffic is heaviest, will yield the greatest revenue percentagewise and in dollars and cents." This proposal would result in an average increase of about 27 per cent.

The fares which the examiner would have the commission approve for all New York roads, except the Susquehanna, are based on three mileage scales set out in an appendix to the report. The mileages are based on one-way distances and scale A begins at $6.80 for one mile, running up to $31.50 for 90 miles. The 10-mile rate in the scale is $10.50; 20 miles, $14.70; 25 miles, $16.80; 50 miles, $25.20. Scale B ranges from a one-mile rate of $6.10 to a 90-mile rate of $28.35, and includes the following: 10 miles, $9.45; 20 miles, $13.25; 25 miles, $15.15; 50 miles, $22.70. Scale C ranges from a one-mile rate of $5.50 to a 90-mile rate of $25.55, and includes the following: 10 miles, $8.50; 20 miles, $11.90; 25 miles, $13.60; 50 miles, $20.45. The proposed application of the scales and other recommendations as to commutation fares were set out in the report as follows:

Scale A shall apply on monthly unrestricted tickets and Scale B shall apply on monthly restricted tickets (not good on Saturdays, Sundays, or holidays), between New York and points on the Jersey Central, including the New York & Long Branch operated by the Jersey Central and Pennsylvania, points on the Old Bridge-Englishtown, N. J., branch of the Pennsylvania, and points on the electric lines of the Lackawanna.

Scales B and C shall apply on monthly unrestricted and restricted tickets, respectively, between New York and points on the River division of the New York Central, points in New Jersey on the Pennsylvania not mentioned above, points on the steam lines of the Lackawanna, and all points in New Jersey on the Lehigh Valley and Erie.

(*Continued on page 96*)

C. & O. Plans Train Telephone Service

Passengers may receive and place Bell System calls while traveling

The Chesapeake & Ohio has filed an application with the Federal Communications Commission for authority to install a two-way public telephone toll system on two of its passenger trains operating between Washington, D. C., and Cincinnati, Ohio. The C. & O. said that although the service—believed to be the first of its kind to be installed by a railroad—may not result in an immediate profit, the overall benefits of the project will bring about increased revenues and will be "economically justified."

The C. & O. commented that the service will enable its patrons, particularly businessmen who will be away from their offices during business hours, to place and receive calls while en route. The toll stations will be in the form of mobile units on the two trains (one operating in each direction) and all equipment will be purchased, installed and operated by the carrier. The circuits will provide service between the Bell Telephone System and its connections and the two trains. Connections with the telephone company will be made at Staunton, Va., Huntington, W. Va., and Covington, Ky. The C. & O. said that the method of communication from moving trains is to be of the induction principle with carrier frequencies.

The applicant said that complete "fall back" equipment will be provided for each train, terminal and repeater station in order to assure continuity of service. Equipment which the C. & O. intends to purchase includes six terminal stations, 23 satellite stations, four repeater stations, six mobile stations and three cars equipped to handle the calls, one of which would be held in reserve. Two channels would be provided between the two trains and the Staunton, Huntington and Covington terminals. The application said further that the only wire to be erected will be a single wire running through tunnels and along those tracks where the existing pole line and circuit are some distance from the track.

Action on St. Lawrence Project Deferred Until 1948

While it voted last week to report favorably to the Senate an amended version of St. Lawrence seaway resolution it has had under consideration, the Senate committee on foreign relations also decided not to make the report at the present session of Congress but to wait until the next re-

gular session convenes in January, 1948. The resolution, approved recently by a foreign relations subcommittee as noted in *Railway Age* of July 19, page 63, is Senate Joint Resolution 111, introduced by the committee's chairman, Senator Vandenberg, Republican of Michigan, for himself and a bipartisan group of 15 other senators.

It would approve the United States-Canada agreement for development of the St. Lawrence river with provisions designed to make the proposed seaway and power projects "self-liquidating." When he offered the resolution in May, Senator Vandenberg indicated that he did not expect action at the present session, but he expressed his hope that the proposal would "command congressional approval" before the present Congress adjourns "next year."

On the House side, meanwhile, the committee on public works has decided to continue in the next session hearings on House Joint Resolution 192, which was the subject of hearings held by the committee last week. The resolution, sponsored by Representative Dondero, Republican of Michigan, is a companion measure to S.J. Res. 111.

Reconsideration of Pullman Case Refused by I.C.C.

The Interstate Commerce Commission has denied a petition filed by the Order of Railway Conductors for reconsideration, rehearing, reargument, and vacation of the order in the proceeding wherein the commission recently approved pooling arrangements involved in transactions whereby the so-called buying group of railroads acquired the sleeping car business of the Pullman Company. The commission's report was noted in the *Railway Age* of May 24, page 1093.

Justice Department Assails Rates on Crated Autos

The Department of Justice has filed with the Interstate Commerce Commission an "amended complaint" in the Docket No. 29572 proceeding, wherein it seeks reparations from 159 railroads for alleged overcharges on rates for the shipment of crated automobiles between March 15, 1944, and November 3, 1946, which, it asserts amounted to approximately double the rates charged for the shipment of boxed automobiles.

"Early in the war," Attorney General Clark commented, "automobiles shipped overseas were boxed for shipment and, hence, the lower rates were available. Later, however, to conserve manpower and lumber, the government used crates for such shipments. The government contends that this simple change in packing provided as good protection to the automobiles as boxes and placed no greater risk on the railroads.

"After the Department of Justice filed its original complaint in this case, the railroads equalized their rates on both methods of packing for future shipments. However, the government has been unable to secure an adjustment on its wartime shipments."

J. F. Sonnett, assistant attorney general in charge of the Justice Department's antitrust division, said that the crates were designed to withstand transportaion hazards and to assure that the vehicles would be in good condition when they were unpacked by the Army or Navy upon arrival overseas. "We contend that the rates for the transportation of crated and boxed vehicles should have been the same," he said.

As noted in *Railway Age* of July 19, page 67, the Department of Justice last week filed a complaint with the commission in which it attacked the "policing rules" maintained by the railroads during World War II in the application of their transcontinental export rates to Pacific Coast ports. Earlier this year, it filed other complaints in which it assailed the rates charged on airplanes and airplane parts, aluminum-alloy airplane landing mats and the refusal of the railroads to apply their export rates to government freight destined for overseas but stopped "temporarily" at interior storage-in-transit depots.

William J. Kennedy Confirmed for Retirement Board

President Truman's reappointment of William J. Kennedy for a new five-year term as "public" member and chairman of the Railroad Retirement Board was confirmed by the Senate on July 19. The nomination had been reported favorably on the previous day from the Senate committee on labor and public welfare.

Mr. Kennedy's new term begins August 29. He has been R. R. B.'s chairman since April, 1946, when he was appointed for the unexpired term of Murray W. Latimer, who had resigned in January, 1946.

Passes Bill to Alter I.C. Act Security-Issue Provisions

The Senate on July 17 passed the House-approved bill to amend the Interstate Commerce Act's section 20a(1) to extend to sleeping-car companies the Interstate Commerce Commission's jurisdiction over interlocking directorships and the issuance of securities by carriers. It also adds a proviso making less restrictive the provisions of section 20a(12) which makes it unlawful for any officer or director of a carrier to profit from security sales by such carrier.

The bill, H. R. 2331, was sponsored by Representative Wolverton, Republican of New Jersey, and endorsed by the Interstate Commerce Commission. Since the Senate approved it without amendment, the measure then went to President Truman.

Aydelott Discusses Need for Ample Oil Supply

A subcommittee of the Senate committee on public lands, which is conducting a general investigation into the nation's petroleum situation, was asked last week to "consider the needs of the railroad industry for an adequate and uninterrupted supply of all grades of oil which is required to sustain its operations so that it may render the type of service needed to sustain the national economy." The railroads' plea was expressed by J. H. Aydelott, vice-president, operations and maintenance, of the Association of American Railroads.

Noting that the railroads are large users of petroleum products, Mr. Aydelott said that they are "deeply concerned" that the supply of different grades of oil be made available to them to meet their requirements for locomotive fuel and lubrication purposes. "They have many additional Diesel power units under construction and a large number additionally on order," the A.A.R. officer said. "They are making extended uses of motorized units in freight warehouses, shops and roundhouses and in the construction and maintenance of their roadways and structures."

According to Mr. Aydelott, the railroads used 91,622,000 barrels of fuel oil, 12,376,000 barrels of Diesel oil and 350,000 barrels of gasoline in transportation service in 1946, in addition to purchasing "large quantities" of kerosene and lubricating oil. "From these figures, it will be seen that the railroad industry each year will use something like 125,000,000 barrels of oil," he continued. After reporting that there are now in service about 7,250 oil burning steam locomotives and 4,500 Diesels, Mr. Aydelott said that the "already limited supply" of oil must be divided more thinly because "many industries normally using coal but unsure as to interruption of supply have converted to the use of the same kind of oil used on locomotives."

"Oil-burning steam engines are used in various parts of the country, particularly in those in which there are large lumber activities, as the operation of coal-burning engines creates a fire hazard that must be avoided," he continued. "Many cities are active in the elimination of smoke and this has resulted in the rapid substitution of Diesel for steam coal-burning engines. This process may be expected to continue and is in no small measure responsible for the rapid increase in the number of Diesel engines in service."

Asserting that the railroad industry is "deeply concerned" about the general oil situation because it has "more or less staked its future" in the use of oil-burning motive power and other motor driven equipment, Mr. Aydelott told the subcommittee that the railroads, as the carriers of a heavy volume of petroleum and its products, realize that the service afforded those commodities must be "above criticism."

"To that end," he said, "they are holding conferences with the oil industry and with owners of tank cars so that there will be a common understanding of the problem confronting the nation in connection with its oil supply. More tank cars are needed. During the first six months of 1947, a total of 1,496 new tank cars were placed in service and today there are on order about 6,000 more."

Mr. Aydelott also observed that oil produced in the Southwest is "more or less" residual in grade and is "what is left" after gasoline and other light grades have been taken out. He added that, until new refining processes were introduced, it did not have a ready sale, particularly in the summer months when demand for gasoline was at its peak.

"The railroads relieved the refineries by purchase and storage of this residual oil and many railroads were thus able to stockpile it several months ahead of actual need," he went on. "The new refining processes have changed this picture and residual oil as such seems to be getting

shorter and shorter in supply. . . . At the present time, buying is on a 'hand to mouth' basis with supplies being picked up wherever obtainable. It is not a healthy situation."

House Allows O.D.T. Money for This Month Only

Although Congress has enacted legislation extending until February 29, 1948, the presidential war powers under which the Office of Defense Transportation functions, the House last week passed an appropriation bill carrying funds for the agency's operations through the current month only. The bill, H.R.4269, carried an O. D. T. appropriation of $140,000, the amount proposed by the House appropriations committee which recommended in its report that the agency "be liquidated by July 31, 1947."

Thus the committee, as it said, proposed the $140,000 "for the purpose of paying liquidation and terminal leave costs of those people still on the rolls." The report went on to say that the committee was of the opinion that "such functions as it may be necessary to carry on in the field of transportation can be handled through the Interstate Commerce Commission." Following the House's action the bill went to the Senate committee on appropriations, where O. D. T. made a presentation in support of an appropriation of $484,000 to permit it to carry on through next February, as authorized in the extension legislation. This would represent a reduction of $160,000 from the $644,000 requested by President Truman on the basis of a proposed extension for the entire fiscal year ending June 30, 1948.

The act which extends the presidential powers under which O. D. T. functions until February 29, 1948, is Public Law 188 (the former H.R.3647) which was approved by President Truman last week, as noted in the *Railway Age* of July 19, page 68. This act, which also extended other war powers, superseded, in so far as O. D. T. is concerned, other Senate and House bills (S.1297 and H.R.3152, respectively) which relate to the O. D. T. powers only, proposing to extend them until January 31, 1948. Nevertheless, the House passed H.R.3152 anyway, when it came up during the call of the calendar on July 21.

Revisions to Internal Revenue Code Proposed by Railroads

The Association of American Railroads submitted proposed revisions to the Internal Revenue Code recently as the House committee on ways and means continued public hearings on the subject of a general revision of the code. The A.A.R.'s views were offered by J. F. Mann, general counsel of the Union Pacific.

Among other things, the A.A.R. urged (1) repeal of the 2 per cent penalty for filing a consolidated return as presently imposed; (2) amendment of that section of the code which provides that consolidated returns may be filed by corporations affiliated through 95 per cent of stock ownership so as to permit lessor railroad corporations to be included in the affiliated group without regard to stock ownership, provided the lessee has the obligation to pay the income tax of the lessor; (3) allowance by lessee roads under certain long-term leases a deduction for loss on retirement or depreciation of the lessor's property which the lessee is required to maintain, replace and restore; and (4) elimination from the requirement that a corporation should pay a tax equal to 2 per cent of the interest on so-called tax-free covenant bonds of the corporation issued before January 1, 1934, which is payable to individuals.

The railroads also advocated reduction in the rate of interest on deficiency assessments and refunds; exclusion from the gross income of a receiving corporation the dividends received from another corporation; application of the so-called tax benefit rule to depreciation deduction; allowance of carry-over of net operating loss to at least five years, instead of the present two-year limitation; repeal of excise taxes on amounts paid for the transportation of persons and property; and allowances for losses on substantial investments in affiliated companies.

No Modification of Crosser Act at This Session

Prospects for modification of the Crosser Act at the present session of Congress faded last week when the Senate committee on labor and public welfare postponed for the remainder of the session action on S.670, the bill introduced by Senator Hawkes, Republican of New Jersey, to strike from the Railroad Unemployment Insurance Act the sickness and maternity provisions added by the Crosser Act, and to put the unemployment insurance taxes on a sliding scale basis which would immediately reduce this levy (paid entirely by the railroads) from 3 per cent to ½ per cent of the taxable payroll. Meanwhile, the House has taken no action on H.R.3150, the similar bill introduced by Representative Howell, Republican of Illinois, and reported favorably from the House committee on interstate and foreign commerce.

Representation of Employees

The United Railroad Workers of America, Congress of Industrial Organizations, has supplanted the Brotherhood of Railroad Shop Crafts of America as the representative of Pennsylvania electrical workers, sheet metal workers and carmen, including coach cleaners, together with their helpers and apprentices, according to the results of a recent election which has been certified by the National Mediation Board.

At the same time, the board also certified (1) the C.I.O. union to continue to represent P.R.R. boilermakers and molders, including melters and coremakers, together with their helpers and apprentices, in addition to power house employees and railway shop laborers; and (2) the Brotherhood of Railroad Shop Crafts to continue to represent P.R.R. machinists and blacksmiths, including their helpers and apprentices.

According to the N.M.B. report, a "run-off" election was required to determine the representative of the machinists, electrical workers, sheet metal workers and carmen, including coach cleaners, because neither of the three unions involved in the original referendum pertaining to those crafts—the B. of R.S.C. of A., the United Railroad Worker, or organizations affiliated with the Railway Employes' Department, American Federation of Labor—received a majority of the votes cast. The "run-off" election ballot showed only the names of the shop crafts brotherhood and the C.I.O. union, both of which had received the highest number of votes in the first election.

As the result of another election which also has been certified by the N.M.B., the Brotherhood of Sleeping Car Porters has replaced the Dining Car Employees Union as the representative of Lehigh Valley parlor car porters.

The International Brotherhood of Electrical Workers, American Federation of Labor, has supplanted the United Steelworkers of America, Congress of Industrial Organizations, as the representative of Monongahela Connecting electrical workers, as the result of a recent election.

In another election the same C.I.O. union retained its right to represent M.C. boilermakers by defeating the International Brotherhood of Boilermakers, Iron Ship Builders & Helpers, A. F. of L.

As the result of other elections which also have been certified by the N.M.B., the Order of Railway Conductors defeated the Brotherhood of Railroad Trainmen, 299 to 260, thereby retaining its right to represent Northern Pacific road conductors, while Chicago, St. Paul, Minneapolis & Omaha technical engineers, architects, draftsmen and allied workers below the rank of officials, all of whom were formerly without representation, are now represented by the American Railway Supervisors Association.

The American Railway Supervisors Association has retained its right to represent yardmasters employed by the Chicago & Eastern Illinois as the result of a recent election which has been certified by the National Mediation Board, in which it defeated the Railroad Yardmasters of America, 19 to 4.

Suspends Rule for Applying Ex Parte 162 to Mixed Carloads

Division 2 of the Interstate Commerce Commission has suspended from July 21 until February 20, 1948, the operation of joint agency tariffs whereby the railroads are proposing to establish a new rule to govern the application of the Ex Parte 162 freight-rate increases on mixed carloads of two or more commodities moving at a common rate. The proceeding is docketed as I. & S. No. 5510.

Women Railway Employees

Class I railways had 71,294 women employees as of the middle of April, a decrease of 1,649 from the mid-January total of 72,943, and the proportion of women employees to total employees fell from 5.48 per cent to 5.3 per cent, according to the latest report on the subject by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The total of 71,294 women employees as of the middle of April compares with an April, 1946, total of 85,463. The total of all employees at the same times were 1,345,801 and 1,345,926, respectively.

As compared with mid-January, there were declines in the mid-April figures for women employees in every employment

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 128 reports (Form IBS) representing 132 steam railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways: For the month of April 1947	For the month of April 1946	For the four months of 1947	For the four months of 1946
1. Net railway operating income	$58,409,866	$10,725,812	$232,505,537	$121,490,732
2. Other income	17,265,499	14,308,194	61,152,131	55,424,193
3. Total income	75,675,365	25,034,006	293,657,668	176,914,916
4. Miscellaneous deductions from income	3,395,393	2,237,076	12,960,018	9,620,662
5. Income available for fixed charges	72,279,972	22,796,930	280,697,650	167,294,254
6. Fixed charges:				
6-01. Rent for leased roads and equipment	10,286,466	9,741,056	42,569,672	37,688,279
6-02. Interest deductions[1]	25,795,089	29,489,511	103,663,360	117,603,070
6-03. Other deductions	139,024	122,118	549,517	473,398
6-04. Total fixed charges	36,220,579	39,352,685	146,782,549	155,764,747
7. Income after fixed charges	36,059,393	*16,555,755	133,915,101	11,529,507
8. Contingent charges	3,479,892	3,023,682	13,702,338	12,298,254
9. Net income[2]	32,579,501	*19,579,437	120,212,763	*768,747
10. Depreciation (Way and structures and Equipment)	29,296,901	28,483,929	116,348,381	113,544,879
11. Amortization of defense projects	1,338,184	693,746	5,406,629	2,338,765
12. Federal income taxes	21,981,180	*6,700,914	98,121,830	17,263,127
13. Dividend appropriations:				
13-01. On common stock	3,052,627	3,210,609	37,509,121	44,863,707
13-02. On preferred stock	3,589,507	789,133	11,509,273	15,574,140
Ratio of income to fixed charges (Item 5÷6-04)	2.00	0.58	1.91	1.07

Selected Asset and Liability Items	All Class I Railways: Balance at end of April 1947	Balance at end of April 1946
17. Expenditures (gross) for additions and betterments—Road	$71,577,371	$65,673,315
18. Expenditures (gross) for additions and betterments—Equipment	141,672,745	68,389,697
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	575,030,998	586,987,851
20. Other unadjusted debits	175,104,650	164,290,195
21. Cash	973,154,746	1,043,339,403
22. Temporary cash investments	985,685,504	1,443,867,034
23. Special deposits	162,946,634	218,516,686
24. Loans and bills receivable	246,241	455,116
25. Traffic and car-service balances—Dr.	50,143,387	41,663,489
26. Net balance receivable from agents and conductors	127,307,792	94,724,902
27. Miscellaneous accounts receivable	289,612,727	387,322,122
28. Materials and supplies	720,591,225	608,369,514
29. Interest and dividends receivable	16,998,674	27,595,065
30. Accrued accounts receivable	155,084,660	196,617,853
31. Other current assets	39,400,368	38,954,384
32. Total current assets (items 21 to 31)	3,521,171,958	4,101,425,568
40. Funded debt maturing within 6 months[3]	181,706,897	124,884,795
41. Loans and bills payable	4,750,000	10,854,058
42. Traffic and car-service balances—Cr.	90,719,342	108,899,625
43. Audited accounts and wages payable	460,860,239	480,446,902
44. Miscellaneous accounts payable	217,059,713	169,897,153
45. Interest matured unpaid	60,602,692	63,360,825
46. Dividends matured unpaid	5,295,563	10,843,797
47. Unmatured interest accrued	55,889,302	54,292,140
48. Unmatured dividends declared	17,472,201	14,898,508
49. Accrued accounts payable	155,393,300	278,682,073
50. Taxes accrued	495,576,300	693,398,297
51. Other current liabilities	89,437,185	149,401,999
52. Total current liabilities (items 41 to 51)	1,653,055,837	2,034,975,377
53. Analysis of taxes accrued:		
53-01. U. S. Government taxes	379,711,004	559,965,138
53-02. Other than U. S. Government taxes	115,865,296	133,433,159
54. Other unadjusted credits	333,118,939	405,009,968

[1] Represents accruals, including the amount in default.
[2] After a deduction of $131,808, taken out of operating revenues to create reserves for land grant deductions in dispute.
[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
* Decrease or deficit.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

group. The largest number continues to be included in the professional, clerical and general category, for which the mid-April total was 56,765, as compared with the mid-January total of 57,699. There were 6,985 women employed in maintenance of equipment and stores as compared with 7,370 in mid-January, 7,309 as compared with 7,582 in transportation work, other than train, engine and yard, and 155 as compared with 181 in maintenance of way and structures.

At mid-April, 18 women were employed as executives, officials or staff assistants, 15 as yardmasters, switchtenders or hostlers and 47 in train and engine service.

Three Roads Fined

The Interstate Commerce Commission has been advised that judgment in the amount of $600 and costs was entered against the Pennsylvania on July 14 in the federal district court at Philadelphia, Pa. The road was found to have violated a commission service order prohibiting the acceptance of traffic from shippers or connecting railroads consigned for delivery to the Brunswick-Balke-Collender Company, Muskegon, Mich., during September and October, 1946.

The commission also has been advised that judgment in the amount of $800 and costs was entered against the Texas & New Orleans on July 3 in the federal district court at Houston, Tex. The T. & N. O. was found to have violated a commission service order prohibiting the use of standard "RS" type refrigerator cars for the transportation of empty beer containers without having first obtained permits.

At the same time, the commission announced that on July 14 the Southern was fined $100 on a plea of nolo contendere entered to an information of two counts in the federal district court for the Northern District of Georgia. The violation of section 233 of the Criminal Code, the specific offenses charged against the Southern being (1) cutting off a car loaded with and placarded "Explosives" while in motion and permitting such car to run on its own momentum into a track and (2) the handling of a car loaded with and placarded "Explosives" and coupled to a locomotive while in yard service.

Proposes Increased Commutation Fares

(Continued from page 93)

In applying the above scales, fractions of less than 0.5 mile shall be dropped, and fractions of 0.5 mile or greater shall be increased to the next whole mile, distances from and to points on the New York & Long Branch to be those of the Jersey Central.

Fares under the above scales for the New York Central and Pennsylvania shall apply to and from West 42nd street and Hudson terminal, respectively, fares to and from Cortland street and Pennsylvania station to be made the usual differential or supplementary fare thereover.

Weekly commutation fares of the above lines, where in effect, may be increased to equal one-fourth of the unrestricted monthly fares between the same points.

Twenty-seven-trip monthly commutation fare between New York, N. Y., and points on the Northern division of the Erie may be increased to equal one-half of the corresponding unrestricted monthly fare.

Fares of the New Haven, Boston & Maine, and New York Central (Boston & Albany) from New England points to be arrived at by applying to their present monthly fares an increase of 25 per cent, subject to a maximum of $6 for their unrestricted monthly tickets, and an increase of 15 per cent, subject to a maximum of $4.50 for their restricted monthly tickets.

Single-line commutation fares to and from Philadelphia, Pa., Washington, D. C., Youngstown, Ohio. Chicago, and other points approved as proposed, except no increase shall be made in the monthly commutation fare between Chicago and LaPorte, Ind., of the New York Central, or in the 54-trip monthly fares of the South Bend between Chicago and Michigan City and Hudson Lake, Ind.

Joint-line fares of the Long Island and Pennsylvania and inter-zone fares of the Pennsylvania and Lehigh Valley approved as proposed.

Joint-line fares of the Jersey Central and Reading approved as proposed, except that the fares from Trenton, N. J., and other intermediate points on the Reading shall be subject as maxima to the fares herein approved from Trenton in connection with the Pennsylvania, and the other fares shall be based on the New York City-West Trenton fare of $24, instead of $25.80, as proposed.

Where computations are necessary, sufficient may be added to the resulting fares to make them end in the next higher "0" or "5".

Dealing with the several different proposals for increasing the "great variety" of multiple fares involved in the proceedings, the examiner recommended that such proposals be approved, subject to the proviso that the resulting fares shall not exceed 2.5 cents per mile of travel, subject

to a minimum fare of 15 cents per trip, and to the rule for the disposition of fractions approved in the recent basic-fare cases in connection with other round-trip fares. Generally these proposals to increase multiple fares would raise them by about 13.63 per cent, the same as the percentage increase recently applied to one-way coach fares.

More I.C.C. Car Service Power Urged by Lemke

A lengthy statement by Representative Lemke, Republican of North Dakota, in which he contended that the only purpose of H.R. 3140 is to "strengthen and implement the Interstate Commerce Commission's authority over car service" marked the continuation last week of hearings on that measure before a subcommittee of the House committee on interstate and foreign commerce.

As noted in *Railway Age* of April 26, page 866, the bill sponsored by Representative Lemke, would amend the Interstate Commerce Act by providing for what it terms a "fair and impartial regulation of car service." It also proposes to create what would be a somewhat autonomous Bureau of Service "within the Interstate Commerce Commission" with the duty of that bureau, headed by a $10,000-a-year director, to administer the car service provisions of the act and "enforce just and reasonable car service." Many railroad officers, including William T. Faricy, president of the Association of American Railroads, already have testified in opposition to the measure, as reported in *Railway Age* of June 28, page 1322.

According to Mr. Lemke, the need for an agency adequately clothed with authority to handle the freight car problem is "forcefully illustrated" by the fact that the I.C.C. has "taken almost a year" to determine whether a $2 per diem charge for freight cars, other than refrigerator and tank cars, would promote greater efficiency in the use of equipment during the periods of car shortage. The recommendations of two I.C.C. examiners in this proceeding were outlined in *Railway Age* of June 21, page 1275.

"The representatives of the railroads cite numerous comparative tabulations and examples to show that the enormous transportation feat performed during the war and since has been due almost solely to the outstanding performance of the carriers themselves," Mr. Lemke said. "Most, if not all, of the increased efficiency of which they boast has been the result of orders compelling increased utilization of equipment issued by either the Office of Defense Transportation or the I.C.C. As far as the railroads' car service rules are concerned, they suspend or invoke them at will depending upon which way the wind blows."

Mr. Lemke charged that while the railroads "point to the equitable distribution of cars at present to sustain their contention that they are masters of the situation," they fail to mention that "this situation so far this year has been prompted by various congressional investigations and two probes instituted by the I.C.C." "Relocation orders of the I.C.C. have also contributed to this remarkable display of equitable distribution," he continued. "It is admitted that the handling of cars this year has been much better than last year. The point, however, is that this job of distribution should be accomplished at all times without the fanfare incidental to congressional investigations and investigations of the I.C.C."

P. F. Scheunemann, vice-president and assistant general manager, Peavey Mills, Minneapolis, Minn., told the subcommittee that the I.C.C. should "tell the A.A.R., including Mr. Faricy and Warren C. Kendall, chairman of its Car Service division, to move the freight cars" to the grain-loading territories in order to meet the loading demands resulting from the harvest. "The western railroads own enough cars," he said, "but all they need is sufficient ownership of cars on line. The I.C.C. can restore ownership to western roads anytime they want to. The other railroads would cooperate in order avoid penalties."

The witness declared that the average ownership of cars on line on the grain-loading now totals approximately 82 per cent, adding that Mr. Kendall, in recent testimony before the I.C.C., had declared that 90 per cent should be the minimum amount. "The I.C.C. has the power to move the cars where necessary," he said, "and the railroads have the manpower to handle them."

Mr. Kendall, who already has testified on H.R.3140, interjected following Mr. Schuenemann's testimony to inform the subcommittee that grain loading for the filrst six months of 1947 has been the heaviest for any comparable period and that loading of grain during a recent 1947 week has been the heaviest for any week since 1929. Representative Carson, Republican of Ohio, a member of the subcommittee, expressed concern over increased steel exports to Russia and Canada, which, he said, hindered the construction of new freight cars. He also cited the lack of storage facilities, which, he contended, has resulted in grain and other agricultural products being stored in the open and subjected to adverse weather conditions.

June Employment

Railroad employment increased 0.71 per cent—from 1,366,094 to 1,375,825—during the one-month period from mid-May to mid-June, and the mid-June total was 3.43 per cent above that of June, 1946, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-39 average, was 133 for June, as compared with 134.4 for the previous month and 128.6 for June, 1946.

June employment was above that of the corresponding 1946 month in six groups, the increases ranging from 0.01 per cent in the professional, clerical and general category to 8.45 per cent in the maintenance of way and structures group. The only decrease was 2.46 per cent in transportation, other than train, engine and yard.

As compared with the previous month, there were increases in employment in five groups, ranging from 0.03 per cent in executives, officials and staff assistants to 4.50 per cent in the maintenance of way and structures category. The only decreases were 0.37 per cent in maintenance of equipment and stores and 0.79 per cent in transportation, other than train, engine and yard.

Hearing Date Set on Increased Coach Fares in South

Acting on a petition of 25 southern railroads for authority to increase their basic one-way and round-trip coach fares, the Interstate Commerce Commission this week assigned the proceeding, Docket No. 29796, for hearing before Commissioner Rogers and Examiner Fuller on August 26 at the Atlanta Biltmore Hotel, Atlanta, Ga. As reported in *Railway Age* of July 19, page 68, hearing in the Docket No. 29785 proceeding, wherein 37 southern roads seek authority to increase their first-class fares, also will be held in Atlanta on August 26.

With respect to the coach fares, the 25 petitioning southern carriers are seeking to increase the interstate one-way tariff to approximately 2.5 cents per mile, round-trip fares to approximately 2.25 cents per mile, and the minimum one-way fare to 15 cents. Also, the Southern has asked the commission to modify its outstanding section 13 order holding Illinois intrastate coach fares to permit their increase to the proposed basis on the Southern's line east and south of and including St. Louis, Mo.

Among the 14 roads which are seeking authority to increase only their first-class fares are the Central of Georgia; Florida East Coast; Gulf, Mobile & Ohio; Louisville & Nashville; Nashville, Chattanooga & St. Louis; and Seaboard Air Line. Two roads—the Alabama, Tennessee & Northern and Frankfort & Cincinnati—are requesting increases in coach fares only.

Rate Petition Amended

The railroads this week filed with the Interstate Commerce Commission amendments to the petition whereby they are seeking authority to make general freight-rate increases which would average 16 per cent for the country as a whole. The original petition, which will be docketed as Ex Parte No. 166, was filed early this month, as reported in the *Railway Age* of July 5, page 55, and July 12, page 85.

Among the amendments filed this week was one which adds to the list of petitioners numerous short lines; and another which spells out more precisely the applicability of the proposed 30-cents-per-net-ton increase on tidewater anthracite coal moving rail-water-rail to New England destinations and rail-lake-rail anthracite.

I.C.C. Sets Back Hearing Date on Per Diem Complaints

The Interstate Commerce Commission has set back from August 4 to September 16 the resumption of headings in the Docket Nos. 29587 and 29751 proceedings. The hearings will be held at the commission's Washington, D. C., offices, before Examiner Rice.

The Docket No. 29587 proceeding pertains to a complaint filed by the short lines, which, in addition to assailing per diem rates which have been in effect since February

1, 1945, have asked the commission to cut the rate to 95 cents—or to other such basis as it may determine—and to award reparations retroactive to the latter date. The No. 29751 proceeding embodies a complaint filed by six western roads which charged that the prevailing per diem of $1.25 is too low and is a contributing factor to the freight car shortage. As noted in *Railway Age* of June 28, page 1326, hearings in both proceedings were held last month.

Bill Proposes New Conditions for Sale of Barge Lines

New conditions under which the Federal Barge Lines services operated by the government-owned Inland Waterways Corporation would be offered for sale to private interests have been proposed by Representative Howell, Republican of Illinois, in a bill which would, meanwhile, modify the ban keeping I.W.C. off the Ohio river by authorizing operations on that waterway and its tributaries below Paducah, Ky. In the latter connection, the bill, H.R.4021, would amend section 3(b) of the Inland Waterways Corporation Act.

The present section 3(b) authorizes extension of I.W.C. operations, under specified conditions, to tributaries of the Mississippi river, "not including the Ohio river." The bill would make that provision read: "not including the Ohio river and its tributaries above Paducah, Kentucky."

With respect to the sale of I.W.C. facilities, the bill would declare it to be the policy of Congress "to continue the transportation services of the corporation until private persons, companies, or corporations engage, or are ready and willing to engage, in common-carrier services on the rivers where the corporation operates." The secretary of commerce would be authorized to sell or lease I.W.C. facilities, the bill's preference being for sale as a whole or as two separate units, with facilities and operating rights on the Mississippi and its tributaries being considered as one unit and the Warrior river operations as the other. There is, however, a provision authorizing the secretary to sell the transportation facilities of either unit in whole or in part "to a purchaser of the operating rights."

Other provisions stipulate that no part of I.W.C.'s transportation facilities or operating rights (except those of the Warrior river division above Mobile, Ala.) could be sold to "any carrier by rail or to any person or company directly or indirectly connected with any carrier by rail." Moreover, the sale or lease could not be to any person or corporation "who shall not certify, as part of the consideration for such sale or lease, that it intends to continue such facilities in common-carrier service in a manner substantially similar to the service rendered by the corporation." Finally, no sale or lease could be executed until it had been approved by the President, who would receive an appraisal of I.W.C. facilities which the bill would require the Interstate Commerce Commission to make.

The bill would also create a six-member commission to give such advice to the secretary of commerce "as it deems necessary in order to assist him in promptly disposing of" I.W.C. facilities. Members of the commission would be the president of I.W.C., who would serve as chairman; a member of the I.C.C. to be appointed by the President; two members of the Senate to be appointed by that body's president pro tempore; and two members of the House to be appointed by the speaker. In addition to advising the secretary of commerce, the commission would be authorized to make recommendations to Congress on the disposal matter.

The bill's sponsor, Representative Howell, was chairman of the subcommittee of the House's so-called select committee on small business, which recently held a series of hearings on the future of I.W.C. The committee's report, recommending rehabilitation and then sale of the barge lines, was noted in *Railway Age* of June 14, page 1230.

Apprentice Programs Renewed

Revitalized and expanded joint apprenticeship programs for the development of skilled maintenance men have been adopted by the Union Pacific, the New York Central, and the Western Pacific, in cooperation with the unions with which they have bargaining agreements, according to an announcement recently by the Apprentice-Training Service of the Department of Labor, which gave technical assistance in setting up the new joint apprenticeship programs. These programs have been approved by the federal committee on apprenticeship. This committee is composed of representatives of employers and unions, and is the policy-making body for the Apprentice-Training Service.

The announcement described the Union Pacific and the New York Central as the pioneers in the undertaking to improve and expand apprentice training by the railroads and to have railroad apprenticeship programs registered with the federal committee.

The apprenticeship programs provide for the training of machinists, electricians, sheet metal workers, carmen, painters, boiler makers, blacksmiths, steamfitters, pattern makers, molders and upholsterers.

The department explained that during the war there was a serious slump in apprentice training, as most apprentices and potential apprentices entered the armed forces. The new and expanded apprenticeship programs were established to remedy this situation and to build and maintain the skilled work force of the railroads.

Reed Revamp Bill Sidetracked

The House committee on rules this week failed to act on a resolution which would have brought before the House a proposed rule giving preferred position on the calendar to H.R.3980, the bill introduced by Representative Reed, Republican of Illinois, to set up procedures for readjustment of railroad financial structures. The rules committee's action made it unlikely that the bill, which was reported favorably from the committee on judiciary, would come before the House for consideration before adjournment of the present session of Congress.

Like its predecessors, this latest version of the Reed bill would make its procedures applicable to certain railroads undergoing reorganization as well as those not yet in the hands of the courts. The judiciary committee's favorable report, noted in the *Railway Age* of July 19, page 67, was followed by a minority report opposing the bill which was signed by 11 of the committee's 27 members. Four members of this minority group opposed the proposed rule at July 21 hearings before the rules committee.

The minority's objections were confined to that section of the bill which made the readjustment procedures available to certain railroads undergoing reorganization. "There are," the report said, "important questions of public policy involved in this section. It is essential that sound financial structures be established for the nation's railway systems and that their credit be restored and preserved in order that the railroads may be in a position to render the best public service. The public is entitled to, and must have, the best possible service; and in order that this be accomplished, railroad plants must be maintained in the most modern condition. It is our firm conviction that this section, if enacted by the Congress, would so impair the credit of railroads that they could not expect to secure needed funds to accomplish this most important objective."

Meanwhile the Senate had taken no action on the similar bill, S.249, on which its committee on interstate and foreign commerce recently made a favorable report. Also pending in the Senate when this issue went to press was that committee's amended version of the House-approved "Mahaffie" bill—H.R.2298, the provisions of which would apply only to roads not in the hands of the courts. This bill, which was introduced by Representative Wolverton, Republican of New Jersey, embodies recommendations of the Interstate Commerce Commission as presented by Commissioner Mahaffie; it proposes to reestablish in modified and amplified form the voluntary readjustment procedures of the former McLaughlin act which expired November 1, 1945.

Money for Retirement and Mediation Boards

The final version of the Labor-Federal Security Appropriation Act for the fiscal year ending June 30, 1948, carries $690,793,000 for the Railroad Retirement Board and $869,400 for the National Mediation Board and National Railroad Adjustment Board. The act, signed recently by President Truman, is Public Law 165.

The $690,793,000 provided for the Retirement Board is the amount requested in President Truman's budget estimates as finally revised, and it includes $685,072,000 appropriated to the Railroad Retirement Account in the Treasury and $5,721,000 for the board's expenses under the Railroad Retirement Act. The act provides no funds for the board's work of administering the Railroad Unemployment Insurance Act, since that act provides that, with certain limitations, 10 per cent of the payroll taxes collected thereunder shall be available for administrative purposes.

The $869,400 provided for the Mediation and Adjustment boards is $18,600 less than the budget estimates, but it is $18,700 more than was carried in the House version of the bill, which had cut the budget estimates

by $37,300. The largest items are $367,000 and $328,700 for salaries and expenses of the Adjustment and Mediation boards, respectively, $119,000 for Mediation Board expenses in connection with arbitration and emergency boards, and $45,000 for the Adjustment Board's printing and binding.

Would Exempt RR Unions from Political Contribution Ban

Representative Brehm, Republican of Ohio, has introduced House Joint Resolution 228, which would amend the Taft-Hartley Labor-Management Relations Act to exempt unions in the railroad field from provisions prohibiting political contributions by labor organizations. As noted in the *Railway Age* of June 14, page 1229, employers, employees and labor relations matters subject to the Railway Labor Act were excluded specifically from other provisions of the new act, but the ban on political contributions is an amendment to the Federal Corrupt Practices Act, and it applies to "any labor organization."

The Brehm resolution proposes to add the following: "except that there shall not be included within the meaning of 'labor organization' for the purposes of this section any railway labor organization which has heretofore, pursuant to section 3, first, of the Railway Labor Act, as amended, participated in the selection of labor members of the National Railroad Adjustment Board."

History of the 708th Railway Grand Division, M.R.S

Major A. G. Gregory, Box 164, Armory, Miss., has written a history of the 708th Railway Grand Division, Military Railway Service, which will be available for distribution some time in September, and copies of the book may be ordered from Major Gregory at the above address at a price of $5. The 708th was sponsored by the Baltimore & Ohio, which is rendering some assistance in the preparation of the history. The 708th was commanded by Colonel W. S. Carr of the New Haven—now superintendent of the road's Boston division.

Overseas

GERMANY.—A training program to provide 200 qualified boilermakers for the Henschel locomotive repair shop is now under way, according to the latest report on the transportation situation in the United States Zone of Occupation in Germany. The program is expected to increase the repair of locomotives from four weekly to 50 per month.

The report, prepared by the War Department, also discloses that Greece has purchased 10 United States Army switching locomotives, now stored at Augsburg, and that under arrangements completed with the TATRA works in Czechoslovakia, 350 Reichsbahn cars are now being repaired in that country.

SWEDEN.—A provisional agreement was arrived at recently by which the Bergslagen Railways, including the associated Gavle-Dala Railway, are to be absorbed into the Swedish State Railways. Negotiations for the transaction have been under way intermittently since 1939. The purchase price is reported to be approximately $44,000,000. The Bergslagen Railways constitute the largest privately-owned system in Sweden.

Supply Trade

$250 Million Backlog Is Reported by A.C.F.

In a statement July 21, accompanying release of the annual report of the American Car & Foundry Co. for the fiscal year ended April 30, Charles J. Hardy, chairman of the board, announced that the company and its wholly-owned subsidiaries currently have a backlog of orders in excess of $250 million. The year closed with a backlong of about $229 million, he said, but that volume has increased since in spite of deliveries made "in fair volume" meanwhile.

The company reported net earnings of $5,176,042 for the fiscal year, compared to $5,346,689 for the preceding year. Gross sales and car rentals amounted to $132,820,-244 as compared to $118,113,552. In discussing domestic business, Mr. Hardy said: "The railroads are keenly alive to the necessity of increasing and improving the amount and the quality of their rolling stock to meet the current and prospective demands upon their capability for the adequate handling of the products of the commerce and industry of the country, and are making strenuous efforts to that end. In such efforts [A.C.F.] is cooperating to the fullest extent of its ability, but is still hampered by the difficulty of obtaining from its suppliers the full quantity of basic and other materials needed in its manufacturing operations."

Onni Lindfors, design engineer in the electrical division of **Fairbanks, Morse & Co.,** at Beloit, Wis., has been appointed chief electrical engineer of the company's plant at Freeport, Ill.

Maurice R. Eastin, formerly eastern zone manager for the railway controls division of the **Minneapolis-Honeywell Regulator Company,** has been appointed sales manager of the railway division. (A photograph and sketch of Mr. Eastin's career appeared in *Railway Age* of August 10, 1946.)

J. F. Kirkland has been appointed Pacific Coast district manager of the **Baldwin Locomotive Works,** with headquarters at San Francisco, Calif., succeeding **W. F. Boyle.** The company also has announced that **Frank B. Powers,** assistant to vice-president-operations of the Eddystone division, has been given complete responsibility for all engineering activities of that division.

The **American Welding & Manufacturing Co.,** Warren, Ohio, has announced the appointment of **Frank J. Shanaberg,** formerly sales promotion manager, as eastern district sales manager to cover the bulk of New England, eastern New York and Pennsylvania, and Washington, D. C. The removal of the eastern district offices from 500 Fifth avenue, New York, to 1060 Broad street, Newark 2, N. J., also was announced.

E. W. Backes, whose appointment as Chicago area railroad industries sales manager of the **Carnegie-Illinois Steel Corporation** (a subsidiary of the United States Steel Corporation) was reported in *Railway Age* of July 12, was born in New York and received his higher education at

E. W. Backes

Pennsylvania Military College and at Yale University. He entered the service of Carnegie-Illinois in 1940, and was appointed assistant manager of sales for railroad materials on January 1, 1946. Previously he had served in sales engineering in the railroad material and commercial forgings division of the Chicago general sales organization.

G. A. Price, whose appointment as head of the consolidated sales organization

G. A. Price

of the **Carnegie-Illinois Steel Corporation** (a subsidiary of the United States Steel Corporation) in the Chicago area was reported in *Railway Age* of July 12, was born in Chicago and received his higher education at Northwestern Univer-

sity. He entered the service of Carnegie-Illinois nearly 28 years ago, and has served in various sales capacities since 1920. In 1939 he was named head of the Chicago district sales organization, which will be replaced by the new consolidated sales organization under his direction.

R. C. Allen, whose promotion to manager and chief engineer, turbo-power development department, of the **Allis-Chalmers Manufacturing Company** at West Allis, Wis., was reported in *Railway Age* of June 28, was born at Hartford, Conn., on July 16, 1889, and began his engineering career with Pratt & Whitney, Hartford. After serving 5½ years with the Terry Steam Turbine Company, Hartford—the last three years as assistant chief engineer

R. C. Allen

—Mr. Allen joined the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and served there 16 years—the last five as manager of large turbine engineering. Following a period of service as manager of engineering of the A. O. Smith Corporation, Milwaukee, Wis., and as chief engineer of the Murray Iron Works Company, Burlington, Iowa, he joined Allis-Chalmers in July, 1936, as manager and chief engineer of the steam turbine department, the position he held at the time of his recent appointment.

The **Air Reduction Sales Company** has announced the opening of a new acetylene plant in Dayton, Ohio, with **R. K. Haygood** as plant superintendent.

George M. Snyder has been appointed executive metallurgist of the **Woodlings-Verona Tool Works,** with headquarters at Verona, Pa.

The **Cummins Engine Company,** Columbus, Ind., has announced four new personnel assignments in its distribution division, as follows: **S. J. Coffey,** formerly manager of the Cummins Diesel Sales Corporation of Illinois, has been appointed manager of regions; **Byron A. Duling,** formerly manager of the Cleveland regional office, has been appointed manager of engine distribution, with headquarters at Columbus; **Raymond Boll,** formerly a member of the sales department, has been appointed assistant manager of the Cleveland region, with headquarters in Cleveland, Ohio, and **W. C. Phillips,** formerly sales engineer, has been appointed assistant manager of the southeastern region, with headquarters at Columbus.

Frank E. Carroll, structural engineer, has joined the engineering department of the **Timber Engineering Company,** it has been announced.

J. M. Johnson, formerly in charge of sales of the transporter division of the **Automatic Transportation Company,** Chicago, has been appointed assistant sales manager, in which capacity he will assist R. L. Wolter, sales manager, in both the transporter and truck divisions. **J. A. Baldinger,** formerly assistant sales manager for the truck division, has been appointed assistant to the general manager.

OBITUARY

E. E. Brott, vice-president of the American-Marietta Company and general manager of its operations in the Pacific Northwest, died at Seattle, Wash., on July 14.

Organizations

Clyde B. Atchison, chairman of the Interstate Commerce Commission, will address the Denver (Colo.) chapter of the **Association of Interstate Commerce Commission Practitioners** in that city at the Cosmopolitan hotel on August 8.

The **Cincinnati Traffic Club** will hold a joint golf outing and picnic on Tuesday, August 12, at the Summit Hills Country Club.

A one-way trip on the New York, Ontario & Western from Weehawken, N. J., to Oneida, N. Y., has been arranged by the **Joint Railfan Trip Committee,** on September 7.

Equipment and Supplies

FREIGHT CARS

The BALTIMORE & OHIO has ordered 1,500 70-ton hopper cars from the Pullman-Standard Car Manufacturing Company, 500 70-ton covered hopper-type cement cars from the Greenville Steel Car Company and 1,000 50-ton hopper cars from the Bethlehem Steel Company. Deliveries of these cars are scheduled to begin in December. An inquiry for this equipment was reported in the *Railway Age* of June 14, page 1235.

The ELGIN, JOLIET & EASTERN has ordered 500 50-ton box cars from the Magor Car Corporation, 400 50-ton drop end gondolas from the Ralston Steel Car Company and 100 70-ton gondolas from the Greenville Steel Car Company.

The WHEELING & LAKE ERIE has ordered 1,000 70-ton steel hopper cars from the Ralston Steel Car Company, to be delivered in December. Inquiry for this equipment was reported in the *Railway Age* of July 12, page 71.

SIGNALING

The NEW YORK CENTRAL has ordered equipment from the General Railway Signal Company for an all-relay electric interlocking to be installed at Crestwood, N. Y. The control machine, to be located in the Crestwood passenger station, will have a 22-in. by 60-in. control panel, equipped with 30 levers and 14 indication lights for the control of 14 electric switch machines and 20 signals. The most distant controlled point is approximately 0.5 mi. from the office. This order includes welded steel bungalows, Type SA searchlight signals, Type B plug-in relays and Model 5A electric switch machines.

The UNION PACIFIC has placed orders with the Union Switch & Signal Co. for materials for a car retarder system to be installed at Pocatello, Idaho. The order includes seven double-rail Model-31 electro-pneumatic car retarders—totaling approximately 1,000 rail feet of retardation and 27 direct-acting electro-pneumatic switch movements, with the necessary detector track circuit equipment, trimmer and repeater signals, and three control machines. The field work will be done by railroad forces.

Abandonments

Authority Sought to "Abandon" Boston's South Station

As a preliminary step toward foreclosing the mortgage under which it is trustee, the Webster & Atlas National Bank of Boston, Mass., trustee for the bondholders of the Boston Terminal Company, owner of South Station, Boston, has asked the Interstate Commerce Commission to issue a certificate authorizing abandonment of the station. The bank told the commission there are $15,155,000 of B.T. first mortgage bonds outstanding and that the unpaid interest on those securities, as of February 1, amounted to $4,025,676. The trustee said it would use funds obtained from the foreclosure to pay the claims of the bondholders.

According to the bank, the B.T. bondholders would have a "substantial" claim for a deficiency under a Massachusetts act of 1896, under which the B.T. was incorporated, but would be unable to establish that claim in the reorganization proceedings of the New York, New Haven & Hartford —principal user of the station—without foreclosing the mortgage. It added that it could not proceed with the foreclosure unless abandonment of the station was authorized by the commission.

At the same time, the bank asserted that an offer by the New Haven to accept a tenancy "at will" of the station would bring

News Department continued on next left-hand page.

DON'T LIMIT OPERATIONS

EFFICIENT operating personnel are limited by the equipment with which they work . . . and only modern power can successfully meet today's freight demands.

Give your personnel adequate equipment . . . up-to-date equipment such as the modern Lima-built steam locomotives being used so successfully on the Richmond, Fredericksburg and Potomac in high speed freight service.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

insufficient revenue, unless additional revenue could be obtained from the Boston & Albany to pay operating charges, taxes and interest on the bonds.

CHICAGO, BURLINGTON & QUINCY.—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Burch, Iowa, to New Virginia, 42 miles. In lieu thereof, it has asked for authority to construct a connecting track to the Chicago Great Western at Talmage and operate under a trackage rights agreement over the latter between Burch and Talmage.

DENVER & RIO GRANDE WESTERN.—This road has applied to the Interstate Commerce Commission for authority to abandon that portion of its line extending from Sapinero, Colo., to Cedar Creek, 26.6 miles.

NEW YORK, NEW HAVEN & HARTFORD.—This road has applied to the Interstate Commerce Commission for authority to abandon those portions of its line extending from Canaan, Conn., to Lakeville, 9.5 miles, and from Tremont, Mass., to Fairhaven, 15 miles.

UNION ELECTRIC.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line, extending approximately 77 miles from Nowata, Okla., to Parsons, Kans. "The abandonment . . . is in accordance with the desires of the majority of the traveling and shipping public heretofore served by it," the commission said. "No station will be deprived entirely of railroad freight service and the bus service which will be performed by the applicant together with that already available in the territory will be ample to handle the passenger traffic heretofore handled over the applicant's railroad."

The commission's report, which noted that difficulty would be encountered in continuing operation of the line because of the unsatisfactory condition of the track and bridges, said that the Kansas Highway Commission has requested removal of the line "as promptly as possible" in order that highway construction may proceed which "has been obstructed by the location of the railroad."

Car Service

I. C. C. Service Order No. 68 which prohibits the furnishing of two small cars for a larger car ordered and suspends tariff rules which permit application of minimum weights other than those provided for the car used, except as to flats, has been modified by Amendments Nos. 15 and 16. Under Amendment No. 15 the exemption provision, which have applied to cars loaded by carriers, are restricted to apply only to cars loaded by carriers with import freight. By Amendment No. 16 the provision which requires capacity loading of cars loaded by carriers is brought into harmony with the foregoing, and also clarified by making it apply only in cases where two or more cars are loaded by carriers. The amended provision reads as follows: "When two or more cars are to be loaded by the carriers with import freight each of such cars, except the final one, shall be loaded full or to its safe loading limit."

I. C. C. Service Order No. 87, which restricts the free time on tidewater coal and coal products at North Atlantic ports, has been extended by Amendment No. 9, which set back the expiration date from August 1 until February 1, 1948.

I. C. C. Service Order No. 180 (fourth revised), which maintains "super-demurrage" charges on refrigerator cars, has been modified by Amendment No. 14 which reinstates the charges that were in effect during June. They are: $2.20 per car per day or fraction thereof for the first and second days; $5.50 for the third and fourth days; and $11.00 per day thereafter.

I. C. C. Service Order No. 758, which has limited to 7 days the free time allowed on gondolas, hoppers and covered hoppers at the ports, has been reissued as Revised Service Order No. 758. The revised version restricts the applicability of the order to only gondolas loaded with non-bulk freight.

Financial

CHICAGO, ROCK ISLAND & PACIFIC.—*Reorganization.*—The Interstate Commerce Commission has assigned August 19 as a hearing date on the determination of a maximum limit of allowances to be incurred by this road's reorganization managers in putting into effect and consummating the reorganization plan. The hearing will be held at the commission's Washington, D. C., offices before Examiner Wilkins.

CHICAGO, BURLINGTON & QUINCY.—*Trackage Rights.*—This company has applied to the Interstate Commerce Commission for authority to acquire trackage rights over approximately 51 miles of the Chicago Great Western between Burch, Iowa, and Talmage, in lieu of its present line from Burch to New Virginia, which it would abandon.

CHICAGO & NORTH WESTERN.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $4,650,000 of 1¾ per cent equipment trust certificates, the proceeds of which will be applied toward the acquisition of equipment estimated to cost $6,283,000, as outlined in *Railway Age* of June 21, page 1283. The certificates will mature in 10 equal annual installments, starting August 1, 1948. The report also approves a selling price of 98.945, the bid of Salomon Brothers & Hutzler and associates, on which basis the average annual cost will be approximately 1.96 per cent.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $3,150,000 of 1¾ per cent equipment trust certificates, the proceeds of which will be applied toward the acquisition of locomotives estimated to cost $3,973,920, as outlined in *Railway Age* of June 28, page 1329. The certificates will mature in 10 equal annual installments, starting July 15, 1948. The report also approves a selling price of 99.852, the bid of Halsey, Stuart & Co., and associates, on which basis the average annual cost will be approximately 1.78 per cent. (See *Railway Age* of July 12, page 97.)

ILLINOIS CENTRAL.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $4,400,000 of Series X equipment trust certificates, the proceeds of which will be applied toward the acquisition of the following equipment:

Description and Builder	Estimated Unit Price
400 33-ft. Cor-Ten Steel 50-ton hopper cars (General American Transportation Corporation)	$ 3,865
500 33-ft. 50-ton hopper cars (General American)	3,470
500 33-ft. 50-ton hopper cars (American Car & Foundry Co.)	3,480
1 tavern-coach dormitory car (Pullman-Standard Car Manufacturing Company)	126,360
1 dining car (Pullman-Standard)	149,880
1 parlor-bar lounge car (Pullman-Standard)	122,910
1 parlor-observation car (Pullman-Standard)	125,670

The certificates would be dated August 1 and sold on the basis of competitive bidding.

NEW YORK CENTRAL.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $9,400,000 of equipment trust certificates, the proceds of which will be applied toward the acquisition of the following equipment:

Description and Builder	Estimated Unit Price
1,000 55-ton steel box cars (Despatch Shops, Inc.)	$ 3,793
1,000 55-ton steel box cars (Greenville Steel Car Co.)	3,800
1,000 55-ton steel automobile box cars (Despatch)	4,100
2 2,000-hp. Diesel-electric road freight locomotives (Fairbanks, Morse & Co.)	202,400
2 2,000-hp. Diesel-electric passenger locomotives (American Locomotive Company)	198,700
2 2,000-hp. Diesel-electric passenger locomotives (Am. Loco.)	186,300

The certificates would be dated August 15 and sold on the basis of competitive bidding.

PENNROAD CORPORATION.—*New Director.*—Jay Cooke of Philadelphia, Pa., has been elected a member of this company's board of directors.

ST. LOUIS SOUTHWESTERN.—*Securities.*—The Interstate Commerce Commission has modified a July 2 order of its Division 4 (reported in *Railway Age* of July 12, page 97) to reduce from 30 to 22 days the time at which the order shall take effect. Division 4 had authorized this road to renew and issue certain notes, thereby clearing the way for termination of its reorganization under section 77 of the Bankruptcy Act. On July 7, the applicant asked the commission to advance the effective date of the order.

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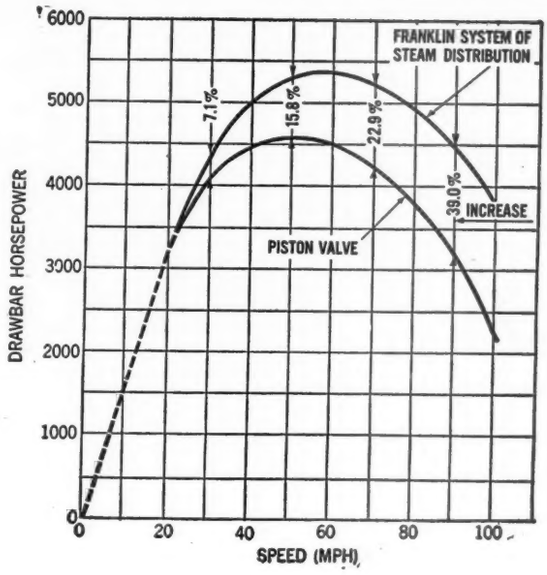
MORE POWER



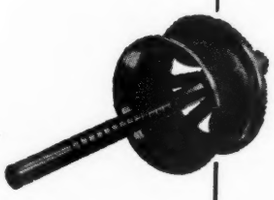
This curve shows a comparison of horsepower at rear of tender for a modern locomotive when equipped with piston valves and when equipped with the Franklin System of Steam Distribution. In both cases, steam consumption by the engine is 90,000 lbs. per hour.

Computations based on:

Type 4-8-4
Cylinders 25" x 32"
Driving Wheels 80"
Boiler Pressure 300 lb
Steam Temperature 730° F
Total Heating Surface 4225 sq ft
Grate Area 100.2 sq ft

from a locomotive equipped with the Franklin System of Steam Distribution

This curve shows the improvement in horsepower output that may be expected from a modern locomotive when it is equipped with the Franklin System of Steam Distribution.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

Dividends Declared

Atlanta & West Point.—$1.00, payable August 1 to holders of record July 25.

Atlantic Coast Line.—$1.00, quarterly, payable September 2 to holders of record August 15.

Chattahoochee & Gulf. — $1.25, semi-annually, payable July 15 to holders of record July 8.

Erie & Kalamazoo.—irregular, $1.75, payable August 1 to holders of record July 18.

Louisville & Nashville.—88¢, quarterly, payable September 12 to holders of record August 1.

New York, Chicago & St. Louis.—6% preferred A, $1.50, payable November 1 to holders of record September 8.

Northern of New Hampshire.—$1.50, quarterly, payable July 31 to holders of record July 17.

Western of Alabama.—$2.00, payable August 1 to holders of record July 25.

Average Prices Stocks and Bonds

	July 22	Last week	Last year
Average price of 20 representative railway stocks..	49.99	49.55	59.88
Average price of 20 representative railway bonds..	90.04	89.45	97.41

Construction

Kaiser to Build 52-Mile Line

The award of a $2,300,000 contract for the construction of a 52-mile standard gage railroad for the use of the Kaiser Company, California steel manufacturer, was announced last week. The work will be done as a joint venture by the General Construction Company of Seattle, Wash., J. G. Shea Company of Los Angeles, Cal., and Pacific Bridge Corporation of San Francisco, Cal. Preliminary field engineering was performed by Kaiser Engineers, Inc., which will supervise the construction work.

The line will connect with the Southern Pacific's main line from El Paso, Tex., to Los Angeles at a point between Salton, Cal., and Mecca, whence it will extend in a northeasterly direction to Kaiser's Eagle Mountain iron ore mine. The ore deposit, which will be worked by open-pit operations, is said to contain sufficient ore to meet Kaiser's needs for 50 years or more. It formerly was known as the Iron Chief mine and is said to have been controlled by the late E. H. Harriman when he was head of the Southern Pacific. The ore movement from the mine to the Kaiser mills at Fontana, Cal., will be about 138 miles.

According to the Kaiser Company, the line is to be completed by April 30, 1948. It is expected that Diesel-electric locomotives will be employed.

CHICAGO, BURLINGTON & QUINCY.—This company has applied to the Interstate Commerce Commission for authority to construct a 2,400-ft. connecting track between its own line and that of the Chicago Great Western at Talmage, Iowa, as part of a plan to abandon its line from Burch to New Virginia and operate under trackage rights over the C. G. W.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—This road will install 15 mi. of butt-welded rail between Brookston, Ind., and Monon. The rail will be 112 lb., with delivery expected late in July and early in August. The road plans to use the Oxweld process, and lay continuous sections of rail between insulated joints.

LONG ISLAND.—This road expects to have its first additional electrical substation in operation at St. Albans, Queens, N. Y., by September 9. This is the first of four new substations being installed in the heavy-traffic section in the vicinity of Jamaica as a part of the road's $16 million improvement program, and its prompt completion is possible, according to J. C. White, vice-president, because it was possible to obtain transformers, rectifiers and other material from the War Assets Administration, which had them available at a wartime aluminum plant on the Long Island's lines. The additional substations are required, it was explained, because in recent years a large additional load has been placed on the electrical supply system as a result of the adoption of electro-pneumatic brakes, automatic door controls, more powerful headlights, electric switch heaters and other improvements. Contracts have been awarded for construction of three more substations. The plant at St. Albans was designed by Gibbs & Hill, in cooperation with the staff of H. T. Frushour, assistant vice-president and chief engineer of the Long Island.

Railway Officers

EXECUTIVE

Roy Pope, secretary of the Southern Freight Association at Atlanta, Ga., has been elected vice-chairman. The office of secretary has been abolished.

John E. Tilford, vice-president in charge of traffic of the Louisville & Nashville, with headquarters at Louisville, Ky., was elected executive vice-president, at a meeting of the board of directors held in New York on July 17. He will perform such duties as may be assigned to him by the president and, in addition to his other duties, shall, during a vacancy in the presidency or in the absence or inability of the president to act, perform the duties imposed upon, and exercise the authority of, the president. **John K. Dent,** coal traffic manager at Louisville, has been elected vice-president in charge of traffic, to succeed Mr. Tilford, effective August 1.

Thomas F. Ellis, who for many years has been in charge of tank car traffic for Shippers' Car Line Corporation and its subsidiaries, Kansas City Car Company and Acme Tank Car Corporation, has been appointed assistant vice-president of Shippers' Car Line Corporation.

A. P. Mootz, whose promotion to assistant to the vice-president, traffic, of the Northern Pacific, at St. Paul, Minn., was reported in the *Railway Age* of July 12, was born at Winona, Minn., on September 18, 1899; received his higher education at the College of St. Thomas, St. Paul; entered the service of the Northern Pacific in September, 1920, as a rate clerk, at

A. P. Mootz

Minneapolis, Minn.; and became chief clerk to the assistant general freight agent in 1924. Five years later he was promoted to traveling freight agent, at St. Paul, in which capacity he continued until 1939, when he was appointed assistant general freight agent, covering sales in Minnesota, North Dakota, Wisconsin, and Iowa. In 1939 Mr. Mootz was named assistant general freight agent, sales and service, general office, at St. Paul, the position he held at the time of his recent promotion.

C. H. Westbrook, whose retirement as comptroller of the Chicago & North Western, was reported in *Railway Age* of July 12, has been appointed vice-president and comptroller of the Pullman Company, with headquarters at Chicago. Mr. Westbrook was born at Jefferson, Iowa; attended Des Moines College and the University of Chicago; and entered the service of the North

C. H. Westbrook

Western on November 1, 1901. From 1907 to 1918 he serve das auditor of disbursements at Chicago, and he was assistant federal auditor from 1918 to 1920. In 1920 he was promoted to assistant general auditor, and on May 16, 1936, he was advanced to comptroller, the position he held at the time of his retirement.

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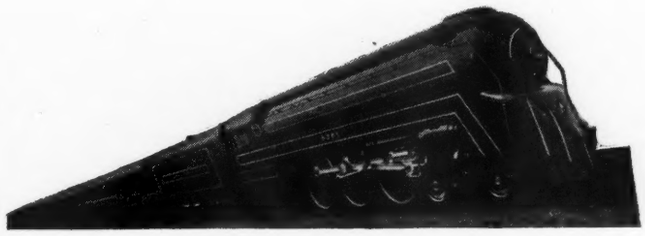


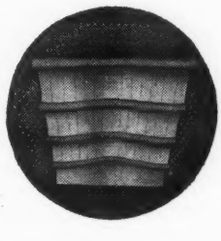
with higher speed demands

• Under today's traffic conditions, fuel economy in steam locomotive operation has become an even more vital factor than ever before.

SO the constant maintenance of a complete brick arch in the firebox is now a "must" in locomotive operation.

FOR modernizing existing power, as well as for installations in new equipment, Security Brick Arches are specifically designed for each different class of locomotive.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists

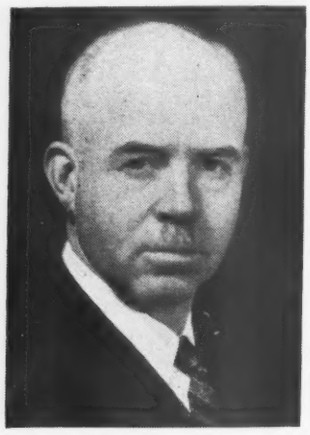


AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

FINANCIAL, LEGAL AND ACCOUNTING

W. R. Kettenring, whose retirement as auditor of disbursements of the Chicago & North Western, at Chicago, was reported in the *Railway Age* of July 12, was born at DeWitt, Iowa, on May 15, 1880; was graduated by Cornell College in 1902; and at once entered the service of the North Western as an instrumentman on track elevation, at Chicago. In 1906 he served as assistant engineer, construction, in Wisconsin, and from 1907 to 1911 in the same capacity on the construction of the passenger terminal at Chicago. From 1912 to 197 Mr. Kettenring served as assistant engineer on construction, maintenance, and valuation projects, and in 1918 he was appointed assistant corporate engineer. Two years later he was named office engineer, and he served in that capacity until 1922, when he was promoted to auditor of capital expenditures. In 1936 he was appointed auditor of disbursements, the position he held at the time of his retirement.

H. D. Barnes, whose promotion to comptroller of the Chicago & North Western, at Chicago, was reported in the *Railway Age* of July 12, was born at Elliott, Iowa, on October 14, 1894, and graduated in civil engineering from Iowa State college in 1917. He entered railway service in May 1917, as an inspector and instru-



H. D. Barnes

mentman at Deadwood, S. D., and in May, 1918, he entered the U. S. Army. On July 9, 1919, Mr. Barnes returned to the North Western, subsequently serving as instrumentman and assistant engineer at Chadron, Neb., and Boone, Iowa. In March, 1923, he was appointed assistant engineer, accounting department, with headquarters at Chicago, and six years later he was promoted to cost engineer, accounting department. On June 1, 1936, Mr. Barnes was advanced to auditor of capital expenditures, with the same headquarters, and on March 16, 1943, he was named assistant general auditor (title changed to assistant comptroller on July 16, 1945), the position he held at the time of his recent promotion.

C. H. O'Hearn, whose appointment as auditor of capital expenditures of the Chicago & North Western, at Chicago, was reported in the *Railway Age* of July 12, was born at St. Paul, Minn, on April 10, 1904, and entered the service of the Chicago, St. Paul, Minneapolis & Omaha (part of the North Western system) in 1920 as a clerk in the accounting department at St. Paul. He was appointed assistant traveling auditor in February, 1929, traveling auditor in December, 1930, and auditor of passenger accounts in January, 1934. In November, 1938, Mr. O'Hearn was advanced to auditor of disbursements, the position he held at the time of his recent appointment.

OPERATING

E. S. Ulyatt, assistant superintendent of the Fargo division of the Northern Pacific, at Jamestown, N. D., has been appointed assistant general superintendent of transportation, with headquarters at St. Paul, Minn.

J. M. Mann, special representative of the general superintendent of motive power and machinery of the Union Pacific, at Omaha, Neb., has been appointed trainmaster, first subdivision and branches in eastern Nebraska, with the same headquarters.

A. B. Shaw, supervisor of stations of the Texas & Pacific at Dallas, Tex., has been appointed superintendent of stations and freight claim prevention, with the same headquarters. **W. A. Cowan** has been appointed supervisor of freight handling and station equipment, with headquarters at Dallas.

The jurisdiction of **W. H. Oglesby,** superintendent of the Southern at Somerset, Ky., has been temporarily extended over the Harriman & Northeastern (part of the Southern), succeeding **J. N. Winston,** who has retired after more than 50 years of service.

MECHANICAL

A. T. Miller, whose appointment as superintendent motive power of the Atlanta & West Point, the Western of Alabama, the Georgia and the Atlanta Joint Terminals, with headquarters at Atlanta, Ga., was reported in *Railway Age* of July 12,

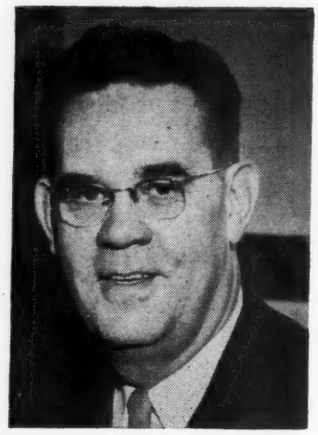
A. T. Miller

was born at Louisville, Ky., on November 5, 1889. After serving in various minor jobs in the shops and roundhouses and as timekeeper and accountant with the Chicago, Rock Island & Pacific, the Atchison, Topeka & Santa Fe and the Southern Pacific, Mr. Miller went with the Atlanta & West Point, the Western of Alabama and the Georgia in August, 1914. From November, 1927, to January 1, 1938, he was assistant to superintendent motive power and from 1932 to 1937, he was also general storekeeper. Mr. Miller was appointed master mechanic on January 1, 1938, and on November 12, 1943, he became assistant superintendent motive power, which position he held until his recent promotion to superintendent motive power.

W. F. Kascal, master mechanic of the Colorado & Southern (Burlington Lines) at Denver, Colo., has been appointed superintendent of motive power, with the same headquarters, succeeding **John Pfeiffer,** whose retirement as superintendent of motive power of the Fort Worth & Denver City and the Colorado & Southern, with headquarters at Denver, was reported in *Railway Age* of June 7.

ENGINEERING & SIGNALING

Winfield George Salmonson, whose appointment as superintendent of telegraph and signals of the New York zone of the Pennsylvania was reported in *Railway Age* of July 12, was born at Philadelphia, Pa., on May 21, 1899. He first entered the service of the Pennsylvania for a few



Winfield George Salmonson

months in 1916, as a signal fitter on the Philadelphia Terminal division, and has been continuously employed by that road since December 10, 1918, when he became an assistant signalman. During World War I he served from July, 1917, to December, 1918, in the United States Naval Reserve. Gaining experience as a signalman, maintainer, test maintainer, foreman of tests, construction and maintenance foreman, and foreman of telegraph and signals, Mr. Salmonson attended the Drexel Institute in Philadelphia, Pa., and completed the diploma course in electrical engineering in 1929. In 1931 he was promoted to assistant supervisor of telegraph and signals on the Baltimore division, and in 1932 was transferred in the same capacity to the middle division. He was promoted to supervisor of telegraph and signals on the Delmarva division in 1933 and later was assigned in the same capacity to the chief engineer in connection with the Wilmington, Del., to Washington, D. C., electrification project.

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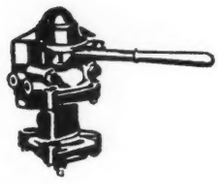
The *Ideal* Throttle Control



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Operates on the same basic principle so successfully employed in train braking for many years.

Modernize control of the steam locomotive . . . with the THROTTLE MASTER

A-1875

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N. Y.
122 S. Michigan Avenue, Chicago 3, Ill.

During June, 1935, Mr. Salmonson served as assistant supervisor of telegraph and signals on the Philadelphia division and on July 1, 1935, he was advanced to supervisor. On September 1, 1938, he was assigned to the chief engineer on construction of the Philadelphia-Harrisburg electrification and from April 4, 1939, until his recent appointment, was engineer of telegraph and signals of the Western region at Chicago.

A. H. Stimson, division engineer of the Eastern division of the Pennsylvania, has been transferred to the office of the chief engineer maintenance of way of the Central region, with headquarters at Pittsburgh, Pa. **C. R. Montgomery,** division engineer on the Cleveland division, has been transferred to the Eastern division, succeeding Mr. Stimson and **W. P. Conklin,** division engineer on the Toledo division, succeeds Mr. Montgomery on the Cleveland division. **S. M. Rodgers,** assistant division engineer on the Philadelphia division, has been promoted to division engineer of the Toledo division, succeeding Mr. Conklin, and **J. W. Buford,** assistant division engineer, office of the chief engineer, at Philadelphia, Pa., has been appointed assistant division engineer on the Philadelphia division, to succeed Mr. Rodgers.

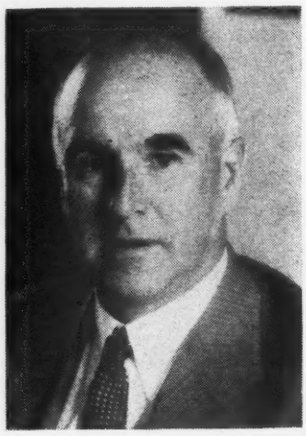
PURCHASES AND STORES

G. H. Walder, whose promotion to chief purchasing officer of the Chicago, Milwaukee, St. Paul & Pacific, at Chicago, was reported in the *Railway Age* of July 12, received his higher education at Cornell

G. H. Walder

University, and entered the service of the Milwaukee in 1912 in the engineering department. In 1917 he was appointed assistant purchasing agent, and in 1920 he was advanced to purchasing agent, the position he held at the time of his recent promotion.

D. C. Curtis, whose retirement as chief purchasing officers of the Chicago, Milwaukee, St. Paul & Pacific, at Chicago, was reported in the *Railway Age* of July 12, was born at Remington, Ind., on June 26, 1878. He entered railroad service in 1898 as a clerk in the engineering department of the Chicago, Burlington & Quincy, at Chicago; transferred to the mechanical department in 1899; and was placed in charge of the piece-work department in 1904. In 1907 he transferred to the stores department, and in 1914 he became traveling storekeeper. From May, 1918, to May, 1920, Mr. Curtis served as superintendent



D. C. Curtis

of stores, Northwestern Region, U. S. Railroad Administration. In May, 1920, he was appointed general storekeeper of the Milwaukee, with headquarters at Milwaukee, Wis., and five years later he was advanced to chief purchasing officer, at Chicago, the position he held at the time of his retirement.

TRAFFIC

Marvin A. Chandler, traveling passenger agent of the Seaboard Air Line at Raleigh, N. C., has been appointed district passenger agent at Atlanta, Ga.

J. E. Courtney, whose retirement as western traffic manager of the Denver & Rio Grande Western, at San Francisco, Cal., was reported in the *Railway Age* of July 5, was born at Indianapolis, Ind.; entered the service of the Rio Grande in October, 1901, as a clerk in the traffic department at Denver, Colo.; became chief clerk, general agency, at Chicago in 1903, and was appointed traveling freight agent at Kansas City, Mo., in 1905. In 1909 Mr. Courtney was promoted to general agent at St. Louis, Mo., and later served in that capacity at Denver, Chicago, and New York. In 1925 he was promoted to assistant traffic manager, at San Francisco, and in June, 1945, he was advanced to western traffic manager with the same headquarters, the position he held at the time of his retirement.

George C. Marquardt, assistant foreign freight agent of the Chesapeake & Ohio at Chicago, has been named general manager of the new World Commerce department, with headquarters at New York, having supervision over offices in Chicago, Richmond, Va., and Detroit, Mich. **R. C. Creager,** foreign freight agent at New York, will retire on September 1, because of ill health. **J. H. Becker,** assistant foreign freight agent at New York, has been appointed assistant general manager, with the same headquarters. **George Roach,** assistant foreign freight agent at New York, has been appointed manager of the department's Chicago office and **B. T. Mitchell,** commercial agent for the Pere Marquette district, has been named assistant manager at Chicago. **John W. Cotter,** assistant foreign freight agent at Richmond, has been appointed manager of the Richmond office and **J. K. O'Brien,** chief clerk to assistant foreign freight agent at Richmond, has been named assistant to the manager, with the same headquarters. Detroit, has been appointed assistant manager there. Mr. Marquardt joined the Chesapeake & Ohio as chief clerk in the foreign freight department in New York

George C. Marquardt

in March, 1923, and later that year became soliciting freight agent. In 1925 he **F. W. Ditman,** division freight agent at became import freight agent at New York and in October, 1928, he was transferred to Chicago as assistant foreign freight agent. A student of rail traffic, Mr. Marquardt has written various articles on foreign trade and Europe's rail system.

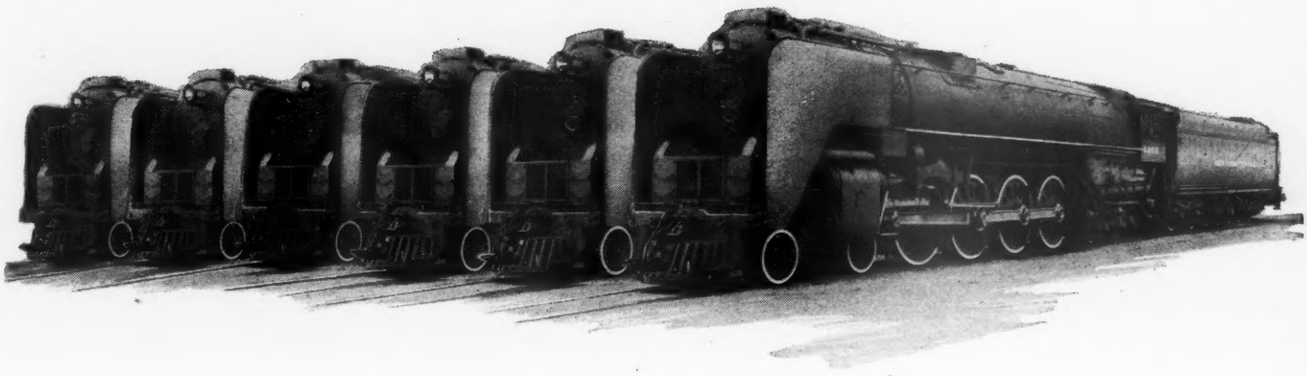
R. E. Smith, whose promotion to general freight traffic manager of the Northern Pacific, at St. Paul, Minn., was reported in the *Railway Age* of July 12, was born at St. Paul on November 11, 1885; entered the service of the Northern Pacific

R. E. Smith

in 1902 as an office boy, general freight department, at St. Paul; and served in various capacities until 1912, when he became traveling freight agent. In 1915 he was promoted to chief clerk to the assist-

News Department continued on next left-hand page.

HSGI helped these locomotives hang up a great utilization record



IN six grueling months these six Class S locomotives, hauling passenger trains over the New York Central route between Harmon, N. Y. and Chicago, piled up an impressive total of nearly 800,000 miles. This was an average of almost 22,000 miles a month per locomotive.

All six locomotives are equipped with HSGI cylinder bushings and Hunt-Spiller Light Weight Cast Steel Pistons. All but one have HSGI valve bushings, Hunt-Spiller Light Weight Valves, and combination (bronze and iron) Duplex Sectional Valve Rings. This splendid demonstration of efficiency was made possible by sound design and quality of components, and not the least important among these were the Hunt-Spiller products mentioned above.

Hunt-Spiller are exclusive railroad sales representatives for Double Seal Piston Rings made for Diesel and other services. Double Seal rings are cast from Hunt-Spiller *Air Furnace* Gun Iron.

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Valve Bull Rings	Cylinder Liners and Pistons for Diesel Service	Valve Rings, All Shapes

ant general freight agent, and served successively as chief clerk to the vice-president in charge of traffic, traffic manager, and freight traffic manager. Mr. Smith became chief clerk, general freight department, in 1924, assistant general freight agent in 1925, and assistant to the vice-president in charge of traffic in 1935. In 1937 he was advanced to general freight agent, the position he held at the time of his recent promotion.

Paul A. Walsh, whose promotion to general freight agent of the Northern Pacific at St. Paul, Minn., was reported in the *Railway Age* of July 12, was born at

Paul A. Walsh

Austin, Pa., on February 8, 1904, entered the service of the Northern Pacific on June 14, 1920, and served in various capacities in the general freight department, at Seattle, Wash., until December 1, 1935, when he was appointed assistant general freight agent, at St. Paul, Minn. On February 16, 1942, he was advanced to assistant to the vice-president, traffic, at St. Paul, the position he held at the time of his recent promotion.

E. J. Cottom, whose promotion to general freight agent of the Louisville &

E. J. Cottom

Nashville at Louisville, Ky., was reported in *Railway Age* of July 12, was born at Louisville on July 23, 1889, entered the service of the L. & N. in 1906 as a freight claim investigator at Louisville; and transferred to the general freight office in 1910 as a clerk. He held various positions in that department until March 1, 1928, when he was appointed chief clerk. On January 1, 1935, he was appointed assistant general freight agent, and on October 16, 1945, he was advanced to general freight agent, sales and service, the position he held at the time of his recent promotion.

C. D. Quinn, whose retirement as general freight agent of the Louisville & Nashville at Louisville, Ky., was reported in the *Railway Age* of July 12, was born at Louisville, entered the service of the L. & N. in 1896 as a stenographer in the general freight office at Louisville, and served in various clerical capacities until 1910, when he was appointed chief rate clerk. Thereafter he was advanced successively to assistant chief clerk and chief clerk, and in 1919 he was promoted to assistant general freight agent. In December, 1921 he was appointed assistant to the vice-president, traffic, and in September, 1923, he was advanced to general freight agent, the position he held at the time of his retirement.

J. R. Barry, whose promotion to general freight agent, sales and service, of the Louisville & Nashville, at Louisville, Ky., was reported in the *Railway Age* of July 12, was born at Louisville, and entered the service of the L. & N. in 1910 as a claim clerk. He resigned one year later, and returned to the road on March 23, 1914, as a clerk-stenographer in the general freight office. Since that time he has served in

J. R. Barry

various capacities in the freight traffic department at St. Louis, Mo., Chicago, and Pittsburgh, Pa. On March 1, 1936, he was promoted to general agent at Pittsburgh, and on January 1, 1940, he was advanced to assistant general freight agent, at Louisville, the position he held at the time of his recent promotion.

H. V. Cook, assistant general freight agent of the St. Louis-San Francisco at St. Louis, Mo., has been promoted to general freight agent in charge of commerce, with the same headquarters. **C. H. Wakefield, C. G. Stemmler,** and **C. A. Pratte,** executive clerks, have been promoted to assistant general freight agents, rates, with headquarters at St. Louis.

T. L. Darneal, whose appointment as general freight and passenger agent of the Missouri-Kansas-Texas, at San Antonio, Tex., was reported in *Railway Age* of July 5, was born at New Albany, Ind., in 1894. He joined the Katy in 1918 as a clerk at Louisville, Ky., and was transferred to Dallas, Tex., after serving in the armed forces. Subsequently he served as division freight agent at Austin, Tex., and as division freight and passenger agent at Denver, Colo. In 1928 he returned to Dallas as

T. L. Darneal

assistant general freight agent, and in 1929 went to St. Louis, Mo., in the same capacity. Mr. Darneal was promoted to general agent at Cincinnati, Ohio, in 1938, and in March of this year became special representative there, the position he held at the time of his recent promotion.

L. B. Horton, a member of the president's committee of the Chicago, Milwaukee, St. Paul & Pacific, at Chicago, has been appointed general development agent of the road's agricultural and mineral development department, with the same headquarters.

J. S. Thompson, whose promotion to general foreign freight agent of the Louisville & Nashville, at Louisville, Ky., was reported in *Railway Age* of July 12, was born at Franklin, Ky., entered the service

J. S. Thompson

of the L. & N. on June 1, 1915, in the general freight office at Louisville. Later he served in various capacities until April 5, 1937, when he was promoted to chief clerk. On April 1, 1939, he was appointed commercial agent, and on May 1, 1945, he was promoted to assistant general freight agent.

News Department is continued on the second left-hand page.

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Freight Operating Statistics of Large Steam Railways—Selected

Region, road and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B. O.	Road locos. on line: Per cent B. O.
New England Region:													
Boston & Albany	1947	362	144,423	154,256	16,856	3,493	65.2	214,640	85,468	56	4	27	31.0
	1946	362	148,095	161,335	19,093	3,342	64.0	204,429	78,596	59	7	20	23.3
Boston & Maine	1947	1,750	325,339	332,731	12,152	12,451	73.4	741,169	318,265	103	16	15	11.2
	1946	1,752	319,644	331,910	13,092	12,041	72.6	706,386	298,104	114	5	17	12.5
N. Y., New H. & Hartf*	1947	1,815	380,238	517,045	44,855	14,546	71.6	835,691	358,203	192	5	46	22.0
	1946	1,820	378,831	549,188	42,343	14,844	72.7	830,378	350,594	185	24	62	21.4
Great Lakes Region:													
Delaware & Hudson	1947	794	288,163	348,334	36,234	12,779	69.4	901,490	483,659	126	38	31	15.9
	1946	846	249,894	293,449	28,429	10,246	64.8	690,671	329,923	117	77	32	14.2
Del., Lack. & Western	1947	971	327,539	368,718	44,323	14,202	69.6	928,348	420,645	112	8	57	32.2
	1946	971	315,328	355,140	41,428	13,342	69.0	846,128	371,102	119	26	25	14.7
Erie	1947	2,229	764,381	814,983	60,055	36,975	65.9	2,412,461	1,011,828	280	19	86	22.3
	1946	2,242	692,330	730,371	57,683	33,698	66.8	2,100,000	849,568	260	70	64	16.2
Grand Trunk Western	1947	972	286,705	293,084	2,710	9,751	66.6	621,489	260,924	66	..	10	13.2
	1946	1,026	252,553	257,604	1,700	8,064	66.3	498,283	195,092	66	..	10	13.2
Lehigh Valley	1947	1,239	308,402	340,790	53,647	13,816	69.6	913,465	438,362	117	12	40	23.7
	1946	1,242	303,587	331,992	45,642	13,212	67.7	877,127	416,832	109	28	32	18.9
New York Central	1947	10,338	3,208,316	3,435,200	217,442	117,280	63.3	7,952,297	3,581,878	1,031	22	364	25.7
	1946	10,328	2,726,588	2,895,206	159,514	98,941	62.7	6,266,852	2,526,226	926	142	351	24.7
New York, Chi. & St. L.	1947	1,656	652,202	659,466	8,432	25,910	66.7	1,660,403	707,581	148	..	14	8.6
	1946	1,656	563,239	574,198	6,948	23,125	69.3	1,403,950	587,263	144	21	23	12.2
Pere Marquette	1947	1,913	432,094	443,047	10,390	14,409	65.5	943,982	406,127	133	..	23	14.7
	1946	1,915	344,549	353,409	8,489	11,123	68.8	708,435	310,885	126	11	26	16.0
Pitts. & Lake Erie	1947	223	94,947	97,111	57	3,686	62.7	314,295	180,746	33	..	14	29.8
	1946	229	66,089	66,225	202	1,787	60.9	142,478	75,492	26	13	11	22.0
Wabash	1947	2,381	657,740	675,848	14,926	24,056	71.7	1,508,849	661,259	161	3	42	20.4
	1946	2,381	643,634	658,084	14,434	22,238	69.6	1,379,255	573,737	162	14	34	16.2
Central Eastern Region:													
Baltimore & Ohio	1947	6,103	2,092,979	2,634,388	307,216	71,994	63.4	5,298,369	2,628,676	872	6	269	23.5
	1946	6,103	1,563,694	1,877,678	184,974	53,876	67.2	3,437,112	1,523,011	688	163	319	27.3
Central of New Jersey*	1947	419	85,032	95,478	18,089	3,141	67.2	225,152	116,005	50	..	27	35.1
	1946	649	155,861	177,300	39,614	5,437	65.6	378,286	190,989	94	3	53	35.3
Central of Pennsylvania	1947	213	84,801	100,575	21,483	3,049	67.7	220,107	116,125	46	2	11	18.6
	1946	...	...	...	...	...	...	...	...	...	...	...	...
Chicago & Eastern Ill.	1947	910	173,010	174,016	3,272	5,158	69.8	338,342	165,108	57	..	16	21.9
	1946	910	168,112	168,858	3,643	4,345	69.5	270,527	121,186	52	8	19	24.1
Elgin, Joliet & Eastern	1947	391	115,085	119,285	3,865	3,559	67.5	267,799	143,510	46	2	15	23.8
	1946	392	99,861	103,415	3,010	2,793	66.0	205,831	106,233	47	4	20	28.2
Long Island	1947	372	33,826	35,209	16,426	382	54.1	27,210	12,321	34	..	3	8.1
	1946	372	34,419	36,632	16,070	413	55.7	29,111	12,590	36	..	5	12.2
Pennsylvania System	1947	10,031	3,924,087	4,442,397	606,043	152,341	65.6	10,573,271	5,086,815	1,941	4	297	13.2
	1946	10,033	3,232,147	3,652,162	472,399	124,787	66.9	7,720,192	3,308,791	1,596	342	304	13.6
Reading	1947	1,357	485,048	540,973	62,377	16,581	65.5	1,254,619	678,812	232	17	46	15.6
	1946	1,361	453,427	498,148	56,031	13,089	61.8	964,280	478,505	235	40	52	15.9
Pocahontas Region:													
Chesapeake & Ohio	1947	3,067	1,048,457	1,144,968	55,904	47,382	58.7	3,976,898	2,297,851	503	..	41	7.5
	1946	3,045	600,603	630,348	16,503	18,542	57.6	1,277,798	609,271	341	124	74	13.7
Norfolk & Western	1947	2,108	677,448	720,662	46,169	30,192	59.6	2,523,711	1,361,095	269	34	15	4.7
	1946	2,139	423,056	434,506	18,800	13,762	64.0	903,614	395,838	184	141	17	5.0
Southern Region:													
Atlantic Coast Line	1947	5,556	1,062,163	1,074,816	15,937	25,967	63.6	1,733,330	763,353	382	20	47	10.5
	1946	5,552	1,246,919	1,264,334	19,104	30,591	61.3	2,021,474	837,397	403	14	29	6.5
Central of Georgia*	1947	1,782	291,805	297,857	5,577	7,257	71.3	478,633	223,294	97	1	9	8.4
	1946	1,783	309,765	317,303	5,593	7,633	72.3	477,032	219,520	94	..	7	6.9
Gulf, Mobile & Ohio	1947	1,931	263,126	284,386	1,347	10,894	73.0	698,966	338,702	113	6	13	9.8
	1946	1,931	301,755	361,793	2,742	10,111	75.4	625,341	293,750	99	6	17	13.9
Illinois Central	1947	6,582	1,451,697	1,473,991	51,431	53,497	65.7	3,635,275	1,705,102	576	11	91	13.4
	1946	6,605	1,208,078	1,218,209	41,082	44,001	66.3	2,793,275	1,222,291	565	49	96	13.5
Louisville & Nashville	1947	4,759	1,435,785	1,554,147	39,782	35,820	66.8	2,501,852	1,283,792	400	1	74	15.6
	1946	4,750	1,148,051	1,257,220	29,636	26,072	66.3	1,643,703	736,398	318	112	60	12.2
Seaboard Air Line	1947	4,145	881,648	934,853	10,596	25,307	68.4	1,681,419	764,985	277	..	59	17.6
	1946	4,139	962,988	1,008,989	14,365	27,637	65.5	1,804,017	746,470	294	..	45	13.3
Southern	1947	6,451	1,738,458	1,764,862	30,185	43,549	69.5	2,731,493	1,210,045	556	16	106	15.6
	1946	6,450	1,840,984	1,872,741	30,079	44,718	68.6	2,666,210	1,118,203	609	6	120	16.3
Northwestern Region:													
Chi. & North Western	1947	8,061	1,037,546	1,078,490	29,925	33,082	66.3	2,270,050	992,460	357	7	118	24.5
	1946	8,062	945,936	971,941	21,589	30,038	67.8	1,927,433	856,083	337	30	147	28.6
Chicago Great Western	1947	1,445	270,697	274,611	8,624	8,498	68.5	559,984	248,984	68	..	12	15.0
	1946	1,445	254,043	257,609	11,157	7,806	70.1	501,863	219,844	69	..	12	14.8
Chi., Milw., St. P. & Pac.	1947	10,725	1,448,494	1,543,976	63,635	46,989	64.5	3,207,004	1,444,959	489	21	93	15.4
	1946	10,725	1,250,298	1,313,959	52,923	41,480	68.3	2,650,349	1,169,810	458	72	78	12.8
Chi., St. P., Minneap. & Om.	1947	1,606	199,569	210,176	13,745	5,357	67.6	355,423	155,717	78	..	32	29.1
	1946	1,606	193,931	206,743	11,027	4,984	68.0	329,502	143,160	79	5	33	28.2
Duluth, Missabe & Iron Range	1947	547	90,677	91,050	910	4,517	51.9	403,331	244,686	41	..	3	6.8
	1946	546	52,026	52,245	377	1,924	47.9	180,430	104,689	50	..	2	3.8
Great Northern	1947	8,237	1,143,136	1,145,527	49,930	40,684	61.6	3,038,979	1,437,866	363	34	68	14.6
	1946	8,236	896,123	892,920	35,313	30,875	68.2	2,051,245	938,614	329	81	79	16.2
Minneap., St. P. & S. St. M.	1947	4,181	459,871	472,921	7,169	13,065	65.9	869,463	401,400	131	..	15	10.3
	1946	4,181	414,647	430,865	9,683	11,278	69.7	715,703	333,290	121	..	11	8.3
Northern Pacific	1947	6,625	860,344	909,635	55,829	33,207	63.9	2,314,940	1,063,479	342	44	54	12.3
	1946	6,576	770,605	811,447	50,294	27,870	68.5	1,878,474	889,147	351	40	52	11.7
Central Western Region:													
Alton*	1947	915	158,062	158,071	458	5,513	68.1	364,945	168,126	63	..	2	3.1
	1946	915	216,301	222,118	415	5,177	67.2	336,174	148,074	77	7	11	11.6
Atch., Top. & S. F. (incl. G. C. & S. F. & P. & S. F.)	1947	13,107	2,740,726	2,881,490	136,503	100,571	67.3	6,518,589	2,567,773	720	125	120	12.4
	1946	13,085	2,586,823	2,751,875	135,735	94,162	68.0	5,967,950	2,331,829	732	79	177	17.9
Chi. Burl. & Quincy	1947	8,671	1,323,014	1,366,677	55,444	50,000	64.0	3,498,042	1,595,086	426	14	76	14.7
	1946	8,666	1,110,493	1,147,755	42,867	40,047	68.6	2,527,244	1,114,855	388	78	82	15.0
Chi. Rock I. & Pac.*	1947	7,619	1,311,525	1,338,722	21,264	39,813	60.0	2,770,059	1,156,629	301	7	90	22.6
	1946	7,615	1,145,982	1,184,297	16,409	36,074	65.0	2,308,298	953,716	331	28	92	20.4
Denver & R. G. Wn.	1947	2,471	330,671	368,603	41,478	10,960	77.1	717,430	361,822	142	63	40	16.3
	1946	2,491	293,142	314,016	30,340	91,101	77.9	544,843	256,804	112	66	48	21.2
Southern Pacific Company	1947	8,159	2,165,674	2,430,008	423,786	83,372	63.7	5,753,021	2,297,471	770	10	197	20.2
	1946	8,172	2,179,753	2,432,406	415,286	81,445	65.3	5,421,742	2,139,889	739	1	179	19.5
Union Pacific	1947	9,775	2,409,479	2,540,256	189,630	88,702	64.4	6,165,663	2,698,843	664	97	115	13.1
	1946	9,775	2,016,201	2,100,688	152,175	74,509	67.7	4,678,447	2,062,997	562	209	145	15.8
Southwestern Region:													
Mo.-Kans.-Texas Lines	1947	3,241	536,350	547,457	9,411	15,342	63.8	1,023,276	447,556	115	..	46	28.6
	1946	3,241	540,505	551,426	9,231	14,474	66.5	920,568	391,667	115	..	50	30.3
Missouri Pacific*	1947	7,012	1,574,693	1,630,447	36,314	51,614	64.7	3,539,524	1,549,178	411	2	58	12.3
	1946	7,054	1,334,957	1,394,423	32,397	45,270	64.9	2,955,578	1,196,175	395	1	98	19.8
Texas & Pacific	1947	1,871	397,446	397,446	7,804	12,250	62.3	847,451	339,245	110	20	12	8.5
	1946	1,871	385,517	385,517	5,886	13,007	64.8	862,820	340,613	111	42	10	6.1
St. Louis-San Francisco	1947	4,615	952,616	980,066	10,919	22,433	64.2	1,558,599	690,385	276	16	36	11.0
	1946	4,615	911,682	949,819	11,895	21,626	64.6	1,430,937	622,219	304	9	31	9.0
St. Louis-San Fran. & Texas	1947	156	29,676	30,473	57	595	64.7	41,056	17,002	11	3	..	..
	1946	156	33,915	35,780	32	621	64.9	41,233	16,776	10	..	1	9.1
St. Louis Southw. Lines*	1947	1,568	366,148	368,524	4,844	14,690	77.6	860,368	384,596	84	13	14	12.6
	1946	1,568	329,657	333,081	4,504	13,209	75.0	743,999	332,578	84	37	21	14.8
Texas & New Orleans	1947	4,318	950,495	951,685	16,150	26,452	72.5	1,698,638	763,595	219	..	33	13.1
	1946	4,321	926,909	929,004	11,895	25,810	69.6	1,616,960	670,428	226	2	35	13.3

* Report of trustee or trustees.

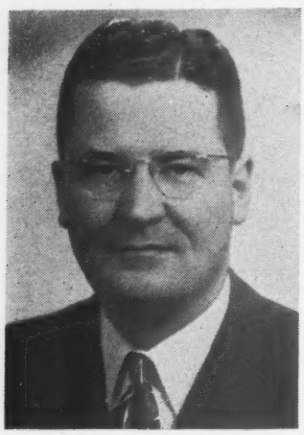
Items for the Month of April 1947 Compared with April 1946

Region, road and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1947	248	5,161	5,409	0.5	24,275	1,490	593	24.5	535	33.5	7,870	179	72.8
	1946	365	5,501	5,866	0.7	22,366	1,392	535	23.5	452	30.1	7,237	196	78.3
Boston & Maine	1947	1,066	10,748	11,814	2.5	35,400	2,282	980	25.6	852	45.4	6,062	106	92.7
	1946	2,427	10,704	13,131	2.0	34,061	2,214	934	24.8	720	40.0	5,672	108	91.3
N. Y., New H. & Hartf*	1947	1,357	20,085	21,442	1.8	31,405	2,204	944	24.6	550	31.2	6,579	97	80.7
	1946	2,757	17,093	19,850	2.3	30,314	2,196	927	23.6	571	33.3	6,421	95	79.7
Great Lakes Region:														
Delaware & Hudson	1947	1,570	7,665	9,235	3.3	56,364	3,143	1,686	37.8	1,672	63.6	20,305	110	70.9
	1946	4,725	4,197	8,922	3.8	47,715	2,780	1,328	32.2	1,185	56.8	12,999	117	52.0
Del., Lack. & Western	1947	4,041	15,179	19,220	3.5	43,450	2,874	1,302	29.6	741	35.9	14,440	111	87.2
	1946	6,434	10,015	16,449	6.1	42,385	2,717	1,191	27.8	727	37.8	12,740	115	85.7
Erie	1947	4,857	26,128	30,985	3.0	51,127	3,186	1,336	27.4	1,075	59.6	15,131	100	83.2
	1946	10,815	19,063	29,878	3.4	50,935	3,051	1,234	25.2	912	54.1	12,631	102	73.8
Grand Trunk Western	1947	3,509	10,723	14,232	5.5	41,380	2,184	917	26.8	552	31.0	8,948	93	140.5
	1946	4,180	7,832	12,012	8.0	40,478	1,977	774	24.2	546	34.0	6,338	87	123.6
Lehigh Valley	1947	4,347	15,301	19,648	3.8	52,744	3,031	1,454	31.7	742	33.6	11,793	103	83.1
	1946	7,379	11,318	18,697	8.0	50,569	2,065	1,409	31.5	701	32.8	11,187	106	79.0
New York Central	1947	41,569	107,340	148,909	3.4	39,246	2,518	1,134	30.5	778	40.3	11,549	112	97.5
	1946	58,696	84,134	142,830	4.5	38,284	2,330	939	25.5	560	35.0	8,153	120	81.1
New York, Chi. & St. L.	1947	1,985	15,517	17,502	1.4	49,454	2,559	1,090	27.3	1,348	74.0	14,243	91	146.8
	1946	3,457	10,460	13,917	3.6	48,865	2,499	1,046	25.4	1,385	78.7	11,821	89	109.8
Pere Marquette	1947	3,852	14,546	18,398	2.3	35,902	2,202	947	28.2	692	37.5	7,077	101	102.9
	1946	5,039	9,010	14,049	5.3	37,703	2,069	908	27.9	708	36.8	5,411	102	80.8
Pitts. & Lake Erie	1947	3,215	11,199	14,514	4.1	50,693	3,327	1,913	49.0	483	15.7	27,017	97	73.1
	1946	6,158	7,252	13,410	6.1	34,870	2,156	1,143	42.2	195	7.6	10,989	139	50.9
Wabash	1947	4,554	15,659	20,213	2.4	45,216	2,313	1,014	27.5	1,034	52.5	9,257	112	117.0
	1946	6,750	13,062	19,812	4.0	43,172	2,164	900	25.8	950	52.9	8,032	112	111.6
Central Eastern Region:														
Baltimore & Ohio	1947	36,311	52,511	88,822	4.6	31,778	2,595	1,287	36.5	993	42.9	14,357	152	88.3
	1946	50,794	43,638	94,432	4.1	32,120	2,233	990	28.3	551	29.0	8,318	149	61.3
Central of New Jersey*	1947	457	9,675	10,132	2.3	33,705	2,720	1,402	36.9	375	15.1	9,229	134	71.8
	1946	5,051	11,642	16,693	7.5	27,978	2,518	1,271	35.1	362	15.7	9,809	129	64.5
Central of Pennsylvania	1947	1,031	3,882	4,913	5.6	35,936	2,686	1,417	38.1	781	30.3	18,173	139	77.0
	1946													
Chicago & Eastern Ill.	1947	1,521	4,395	5,916	4.7	34,924	1,987	970	32.0	915	41.0	6,048	125	82.0
	1946	3,454	3,239	6,693	4.4	30,496	1,635	732	27.9	619	31.9	4,439	134	75.4
Elgin, Joliet & Eastern	1947	6,516	10,130	16,646	1.7	16,872	2,469	1,323	40.3	283	10.4	12,234	142	99.9
	1946	7,602	5,138	12,740	1.4	18,076	2,216	1,143	38.0	266	10.6	9,033	161	69.4
Long Island	1947	87	5,684	5,771	1.1	6,130	829	375	32.3	67	3.8	1,104	336	58.5
	1946	43	5,346	5,389	.6	6,448	862	373	30.5	80	4.7	1,128	354	53.0
Pennsylvania System	1947	116,211	130,143	246,354	9.9	37,210	2,792	1,343	33.4	695	31.7	16,904	133	81.0
	1946	148,659	98,364	247,023	7.5	37,294	2,444	1,048	26.5	451	25.4	10,993	140	66.9
Reading	1947	7,743	27,704	35,447	2.6	34,490	2,592	1,403	40.9	624	23.3	16,674	108	77.6
	1946	13,539	26,018	39,557	2.6	25,134	2,131	1,057	36.6	415	18.4	11,719	132	68.5
Pocahontas Region:														
Chesapeake & Ohio	1947	39,273	20,365	59,638	1.1	57,981	3,884	2,244	48.5	1,363	47.9	24,974	81	80.6
	1946	52,716	15,306	68,022	1.5	36,469	2,162	1,031	32.9	333	17.6	6,670	111	43.5
Norfolk & Western	1947	27,146	7,900	35,046	2.3	61,318	3,781	2,039	45.1	1,314	48.9	21,523	96	87.4
	1946	42,710	5,688	48,398	1.3	37,813	2,160	946	28.8	317	17.2	6,169	132	49.1
Southern Region:														
Atlantic Coast Line	1947	7,463	21,045	28,508	3.7	27,041	1,635	720	29.4	891	47.7	4,580	124	86.4
	1946	9,574	23,670	33,244	2.4	27,017	1,630	675	27.4	857	51.1	5,028	120	102.6
Central of Georgia*	1947	1,258	6,547	7,805	2.6	30,438	1,645	767	30.8	961	43.8	4,177	134	98.9
	1946	1,780	6,261	8,041	1.9	28,476	1,542	710	28.8	874	42.0	4,104	142	113.2
Gulf, Mobile & Ohio	1947	1,521	8,098	9,619	1.4	48,715	2,668	1,293	31.1	1,198	52.8	5,847	66	76.8
	1946	2,214	6,685	8,899	1.7	39,406	2,080	977	29.1	1,081	49.3	5,071	114	104.7
Illinois Central	1947	15,668	33,130	48,798	1.1	43,985	2,571	1,206	31.9	1,182	56.5	8,635	126	80.0
	1946	18,257	35,143	53,400	1.2	40,135	2,367	1,036	27.8	773	42.0	6,169	129	62.4
Louisville & Nashville	1947	23,723	16,573	40,296	3.8	27,332	1,744	895	35.8	1,023	42.7	8,992	138	117.3
	1946	40,060	16,433	56,493	2.5	24,606	1,432	642	28.2	498	26.6	5,168	152	91.8
Seaboard Air Line	1947	4,984	17,578	22,562	1.5	33,526	1,951	888	30.2	1,091	52.8	6,152	120	102.6
	1946	6,502	20,406	26,908	2.1	33,194	1,911	791	27.0	912	51.5	6,012	122	111.7
Southern	1947	12,202	33,353	45,555	3.5	27,364	1,589	704	27.8	895	48.5	6,252	137	91.9
	1946	15,251	33,545	48,796	4.5	25,531	1,463	614	25.0	765	44.6	5,779	144	91.2
Northwestern Region:														
Chi. & North Western	1947	18,210	36,627	54,837	3.6	32,111	2,292	1,002	30.0	589	29.6	4,104	134	84.0
	1946	21,310	29,738	51,048	3.8	32,053	2,104	934	28.5	527	27.3	3,540	127	70.4
Chicago Great Western	1947	904	4,899	5,803	2.3	34,315	2,072	921	29.3	1,496	74.5	5,744	130	123.8
	1946	1,354	4,358	5,712	4.8	33,569	1,988	871	28.2	1,215	61.6	5,071	131	117.1
Chi., Milw., St. P. & Pac.	1947	18,270	41,043	59,313	1.8	34,882	2,232	1,006	30.8	807	40.7	4,491	124	94.9
	1946	24,672	29,159	53,831	1.7	34,378	2,136	943	28.2	654	34.0	3,636	123	81.0
Chi., St. P., Minneap. & Om.	1947	762	6,830	7,592	7.5	23,453	1,801	789	29.1	640	32.5	3,232	123	71.9
	1946	1,242	7,079	8,321	7.9	22,339	1,730	752	28.7	539	27.6	2,971	131	67.3
Duluth, Missabe & Iron Range	1947	14,722	422	15,144	1.9	75,843	4,581	2,779	54.2	534	19.0	14,911	65	69.2
	1946	15,073	307	15,380	3.0	60,628	3,613	2,096	54.4	226	8.7	6,391	76	36.4
Great Northern	1947	18,177	28,984	47,161	3.2	42,762	2,692	1,274	35.3	1,119	51.4	5,819	100	90.5
	1946	23,000	22,190	45,190	3.3	36,421	2,305	1,055	30.4	666	32.1	3,799	110	67.8
Minneap., St. P. & S. St. M.	1947	5,269	9,091	14,360	4.6	32,296	1,916	884	30.7	988	48.8	3,200	98	118.6
	1946	6,369	6,223	12,592	3.7	30,285	1,748	814	29.6	810	39.3	2,657	101	114.4
Northern Pacific	1947	15,287	20,163	35,450	4.4	44,698	2,718	1,249	32.0	1,052	51.4	5,351	139	79.7
	1946	18,955	17,403	36,358	3.8	39,795	2,460	1,164	31.9	786	36.0	4,507	130	70.7
Central Western Region:														
Alton*	1947	966	5,099	6,065	1.5	39,246	2,311	1,065	30.5	906	43.6	6,125	122	84.7
	1946	1,640	5,592	7,232	.9	29,422	1,566	690	28.6	649	33.8	5,394	115	84.9
Atch., Top. & S. F. (incl. G. C. & S. F. & P. & S. F.)	1947	35,466	40,648	76,114	5.0	47,419	2,393	942	25.5	1,164	67.7	6,530	106	109.2
	1946	40,540	37,077	77,617	5.0	45,834	2,309	902	24.8	1,030	61.1	5,940	108	102.2
Chi. Burl. & Quincy	1947	11,399	31,426	42,825	3.2	44,909	2,659	1,213	31.9	1,234	60.4	6,132	103	96.3
	1946	17,656	23,302	40,958	3.4	40,314	2,283	1,007	27.8	846	44.3	4,288	112	75.9
Chi. Rock I. & Pac.*	1947	7,966	24,992	32,958	3.5	37,468	2,120	885	29.1	1,120	64.3	5,060	109	117.7
	1946	11,265	22,313	33,578	5.0	37,576	2,025	837	26.4	904	52.6	4,175	107	92.5
Denver & R. G. Wn.	1947	7,104	4,922	12,026	4.5	37,919	2,183	1,101	33.0	978	38.4	4,881	168	59.8
	1946	8,892	4,058	12,950	4.9	35,838	1,866	880	28.2	679	30.9	3,436	167	53.2
Southern Pacific Company	1947	21,137	48,049	69,186	2.7	42,119	2,680	1,070	27.6	1,179	67.2	9,386	103	103.4
	1946	22,194	47,212	69,406	3.0	40,122	2,516	993	26.3	1,064	62.1	8,729	104	110.1
Union Pacific	1947	23,845	35,501	59,346	2.9	52,537	2,588	1,133	30.4	1,487	75.9	9,203	132	108.8
	1946	27,613	29,936	57,549	4.6	48,997	2,354	1,038	27.7	1,170	62.4	7,035	128	83.8
Southwestern Region:														
Mo.-Kans.-Texas Lines	1947	1,285	8,133	9,418	.9	35,897	1,918	839	29.2	1,516	81.5	4,603	86	119.4
	1946	1,679	8,561	10,240	1.0	34,475	1,710	727	27.1	1,275	70.8	4,028	83	120.1
Missouri Pacific*	1947	14,541	25,970	40,511	1.5	41,660	2,261	989	30.0	1,277	65.8	7,364	110	122.1
	1946	15,612	23,983	39,595	1.8	40,481	2,222	899	26.4	1,023	59.6	5,652	107	100.6
Texas & Pacific	1947	990	6,588	7,578	2.7	43,593	2,154	862	27.7	1,496	86.7	6,044	89	98.0
	1946	1,458	7,682	9,140	1.9	44,579	2,251	888	26.2	1,328	78.2	6,068	87	85.8
St. Louis-San Francisco	1947	4,764	15,526	20,290	2.0	32,002	1,641	727	30.8	1,152	58.3	4,987	129	106.4
	1946	6,854	11,974	18,828	2.1	32,359	1,577	686	28.8	1,087	58.5	4,494	129	97.6
St. Louis-San Fran. & Texas	1947	...	455	455	2.9	27,207	1,394	577	28.6	1,391	75.2	3,633	120	82.6
	1946		407	407	1.7	23,711	1,226	499	27.0	1,667	95.1	3,585	118	120.6
St. Louis Southw. Lines*	1947	1,138	4,694	5,832	3.7	47,889	2,352	1,052	26.2	2,099	103.3	8,176	79	118.3
	1946	1,229	5,437	6,666	1.9	43,716	2,261	1,011	25.2	1,629	86.2	7,070	80	84.6
Texas & New Orleans	1947	3,079	16,863	19,942	2.2	35,944	1,807	812	28.9	1,285	61.4	5,895	85	134.9
	1946	3,902	18,181	22,083	3.7	32,903	1,767	733	26.0	1,042	57.6	5,172	89	124.3

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

On October 16 of the same year he was advanced to assistant to the freight traffic manager, the position he held at the time of his recent promotion.

J. R. Brennan, whose promotion to assistant passenger traffic manager of the Chicago & North Western, at Chicago, was



J. R. Brennan

reported in *Railway Age* of July 5, was born at Granville, Iowa, on May 29, 1908. He attended Iowa State College and the University of Minnesota; entered the service of the North Western on June 1, 1926, and served as relief agent-telegrapher and leverman on various divisions until 1935, when he became a passenger agent at Chicago. He was appointed tour agent in 1936, city agent at Cincinnati in 1937, and traveling agent at Detroit, Mich., in 1941. In 1943 he was transferred to Chicago in the same capacity, and in 1945 he was advanced to assistant to the pasenger traffic manager, the position he held at the time of his recent promotion.

A. A. Bolton, whose promotion to assistant freight traffic manager of the Denver & Rio Grande Western at San Francisco, Cal., was reported in *Railway Age* of July 5,

A. A. Bolton

was born at Stockton, Cal., on August 13, 1895. He entered railroad service in June, 1914, with the Western Pacific at Stockton, and served in the armed forces from 1917 to 1919. From 1919 to 1928 he was employed by the Sun-Maid-Raisin Growers Association, at Fresno, Cal. In May, 1928, he entered the service of the Rio Grande as traveling freight and passenger agent at San Francisco; he became district manager, perishable freight traffic in March, 1940, and was appointed general agent in January, 1943. From October, 1944, to July, 1945, Mr. Bolton served as district manager, perishable freight traffic. In July, 1945, he was appointed general agent, the position he held at the time of his recent promotion.

H. C. Duvall, whose promotion to passenger traffic manager of the Chicago & North Western, with headquarters at Chicago, was reported in *Railway Age* of July 5, was born at Pensaukee, Wis., on May 8, 1894, attended the University of Chicago, and entered railroad service in June 1913, as a ticket clerk on the North Western, at Norway, Mich. Released from the armed

H. C. Duvall

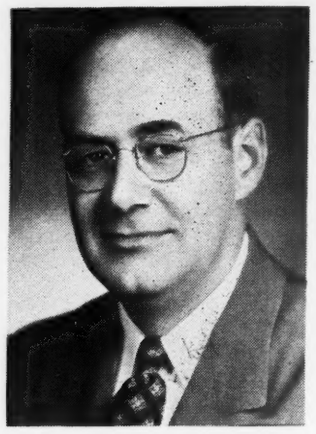
forces in 1919, he returned to the North Western as ticket clerk at Marinette, Wis., and served there until 1926, when he became city agent at Pittsburgh, Pa. Mr. Duvall was appointed assistant chief clerk, general passenger department, at Chicago, in 1928, and assistant general passenger agent in 1936. In 1941 he was advanced to general passenger agent, the position he held at the time of his recent promotion.

W. W. Hott has been appointed general agent of the Missouri Pacific at Detroit, Mich., succeeding **R. J. Nyman,** who has retired after 35 years of service.

Thomas Fuller, assistant general freight agent of the Atlantic Coast Line at Wilmington, N. C., has been appointed executive general agent, with headquarters at Washington, D. C. It was erroneously reported in *Railway Age* of July 19 that Mr. Fuller's headquarters would remain at Wilmington.

A. W. Schauer has been appointed supervisor of baggage, milk and cream traffic of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., succeeding **O. A. Roedell,** whose death at Minneapolis on June 4 was reported in *Railway Age* of June 14.

R. J. Steiner, whose promotion to general passenger agent of the Chicago, St. Paul, Minneapolis & Omaha (part of the Chicago & North Western system), at St. Paul, Minn., was reported in *Railway Age* of July 12, was born at Duluth, Minn., on November 4, 1904, and entered railroad service on January 2, 1929, with the Northern Pacific. On December 14, 1937, he entered the service of the Omaha as a stenographer in the general freight department at St. Paul; he transferred to the general passenger department in 1938, and became special passenger agent on August



R. J. Steiner

1, 1941. Mr. Steiner was promoted to traveling passenger agent on October 16, 1943, and on August 31, 1945, he was advanced to assistant general passenger agent, the position he held at the time of his recent promotion.

J. M. Jensen, whose promotion to assistant traffic manager of the Denver & Rio Grande Western, at Pueblo, Colo., was reported in *Railway Age* of July 5, was born at Gunnison, Utah, on June 21, 1898. He entered railroad service in 1916 as a clerk and cashier of the Rio Grande at Marysvale, Utah, and became a rate clerk, traffic department, at Salt Lake City, Utah, on May 1, 1925. From February, 1932, to June, 1934, he served as assistant manager of the Merchants and Manufacturers Traffic Bureau, at Salt Lake City, and from June, 1934, to May, 1936, as chief clerk, traffic department, of the Rio Grande, with the same headquarters. In May, 1936, he was ap-

J. M. Jensen

pointed live stock agent, and on February 1, 1942, he became general agent at Reno, Nev. Mr. Jensen was appointed commercial agent at San Francisco, Cal., on September 1, 1942, and on March 1, 1945, he was advanced to general agent at Pueblo, the position he held at the time of his recent promotion.